

CRASH
COURSE ON
BEACH DIVES
DIVING & SNORKELING

SCUBAPRO®

Computer Network
Links Divers

Diving & Snorkeling

CARIBBEAN
CONTRAST:

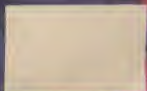
USVI AND
NEVIS

Dive Exotic Palau,
Focus on the 15 mm Lens,
And Much More



\$2.95 CANADA \$3.50
Display Until 10/14/91

Fall 1991





**When you choose a
career in Commercial
Diving...**



MEDTECH®

**...the choice doesn't
end there.**

You can choose one of the following
specialized programs:

WeldTech®...for the diver who wants to
specialize in the field of underwater wet
welding.

SpecTech®...for the diver who wants a
career in underwater inspection.

OR...**MedTech®**...for the diver who's
interest is in combining diving with basic
medical training.



COLLEGE OF OCEANEERING

Los Angeles Harbor
272 South Fries Avenue, Wilmington, CA 90744
CALL TOLL FREE

From outside California: 1-800-824-9027
From within California: 1-800-432-DIVE
DIRECT LINE FROM ANYWHERE: 1-213-834-2501*

*Southern California residents use this number

If **EXCITEMENT** is what you're looking
for...train with us...and gain the knowledge
and skills you need to put you in a league of
outstanding technicians...qualified to dive
worldwide.

Simplify Your Dive Tables.

No-math, no-hassle dive planning



The Wheel: the non-table table.

Planning repetitive dives with tables isn't exactly known as the fun part of diving. The trouble is, conventional tables using residual nitrogen time (RNT) lead to a lot of adding, subtracting — and sometimes — confusion. Now there's a better way: The Wheel. The Wheel uses a nontabular design that eliminates math by adjusting for residual nitrogen automatically. Just dial in your depths and times and read out your maximum allowed time for the next dive. No calculation, no confusion — and less potential for error.

The Wheel: the more-table table.

The Wheel offers more than easy dive planning. Based on proven hyperbaric research, The Wheel gives more dive time on repetitive dives and multilevel dives, while actually maintaining lower maximum nitrogen levels in the body.

KISS your old tables goodbye.

Keep It Simple and Safe with The Wheel. Simple dive planning. Safe nitrogen levels. Pick up The Wheel at your local PADI Dive Store. Looking for a PADI Dive Store? Write us for a FREE Worldwide Directory.

Sea Club Med.



At Club Med's Intensive Dive Villages of Turquoise, Sonora Bay, St. Lucia and Moorea, you don't get hit with another expense every time you come up for air. Everything's included: Scubapro regulators and BC's, Beuchat fins and

Club Med

THE ANTIDOTE FOR CIVILIZATION™

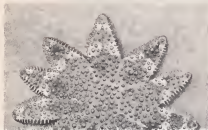
and fast aluminum and fiberglass boats. Catalina tanks and night dives are also available at most villages. The PADI and NAUI certificates cost less, too. To find out more, please call your travel agent or 1-800-CLUB MED. See you in the water.

Here's how our lawyers see it: Some of this may change, but on the other hand, it probably won't. Thank you. © 1990 Club Med Sales, Inc.

SCUBAPRO®

Diving & Snorkeling

SUPER DESTINATIONS



8 JOJO STEALS THE SHOW **Mark Ruark**

A wild dolphin is a star attraction at Club Med's Turquoise dedicated dive resort.

24 NEVIS, A FORGOTTEN GEM **M. Timothy O'Keefe**

In sharp contrast to the more developed dive resorts of the Caribbean, this small island offers good diving, lush scenery, beautiful beaches, quiet inns and little else.

40 AT HOME IN THE CARIBBEAN **M. Timothy O'Keefe**

The U.S. Virgin Islands are convenient, popular, offer excellent diving, and as a U.S. Territory, common language, and currency plus the charm of a foreign

OW'S END **Tim Rock**

reeks have added to the appeal of this world-class diving

RES

E IN BEACH DIVES **Jennifer King**

Understanding of wave dynamics is essential to making safe

GITAL DIVE NETWORK **Cathie Cush**

"chatting" with divers all over the country, turn to your

IN THE SLOW LANE **Bill Harrigan**

we observed it, anemones do, in fact, move along the sea floor.

E 15MM LENS **Eric Hanauer**

it's really only one way to go—a 15mm lens. Unfortunately, it's also not cheap.

IS **Bill Mansfield**

o motor 40 miles offshore for a chance to catch a five-

OD SAMPLER

A QUIZ **E.R. Cross**

ER

E.R. Cross

MORNING **Richard E. Easton, M.D.**

ORIZED DEALERS

SCUBAPRO® Diving & Snorkeling

- Adventure Fiction And Non-fiction Articles Travel
- Latest Equipment And Technical Breakthroughs
- Humor And Trivia
- Exciting Color Photography



Subscribe Now And Receive Every Issue

Sea Club Med.

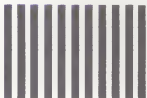
**BUSINESS REPLY MAIL**

FIRST CLASS PERMIT NO. 39, ORANGE, CA

POSTAGE WILL BE PAID BY ADDRESSEE

SCUBAPRO®
Diving & SnorkelingP.O. Box 14003
Orange, California 92613-9923

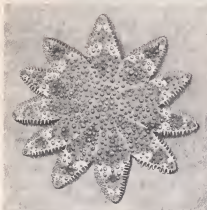
At Club Med's Intensive Dive
of Turquoise, Sonora Bay, St. L
Moorea, you don't get hit
other expense every time y
up for air. Everything's in
Scubapro regulators and
BC's, Beuchat fins and
graphite-silicone masks, i

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

SCUBAPRO®

Diving & Snorkeling

SUPER DESTINATIONS



8 JOJO STEALS THE SHOW **Mark Ruark**

A wild dolphin is a star attraction at Club Med's Turquoise dedicated dive resort.

24 NEVIS, A FORGOTTEN GEM **M. Timothy O'Keefe**

In sharp contrast to the more developed dive resorts of the Caribbean, this small island offers good diving, lush scenery, beautiful beaches, quiet inns and little else.

40 AT HOME IN THE CARIBBEAN **M. Timothy O'Keefe**

The U.S. Virgin Islands are convenient, popular, offer excellent diving, and as a U.S. Territory, provide the traveler with a common language, and currency plus the charm of a foreign country.

68 PALAU, AT RAINBOW'S END **Tim Rock**

Newly documented World War II wrecks have added to the appeal of this world-class diving destination.

SPECIAL FEATURES

14 A CRASH COURSE IN BEACH DIVES **Jennifer King**

In less than ideal conditions, an understanding of wave dynamics is essential to making safe beach dive entries and exits.

30 TUNING IN THE DIGITAL DIVE NETWORK **Cathie Cush**

For exchanging information, or just "chatting" with divers all over the country, turn to your personal computer.

38 ANEMONES, LIFE IN THE SLOW LANE **Bill Harrigan**

Although few divers can say they've observed it, anemones do, in fact, move along the sea floor.

52 FOCUSING ON THE 15MM LENS **Eric Hanauer**

For wide-angle photographs, there is really only one way to go—a 15mm lens. Unfortunately, it's not an easy lens to master and it's also not cheap.

58 TARHEEL LOBSTERS **Bill Mansfield**

North Carolina divers are willing to motor 40 miles offshore for a chance to catch a five-pound or better lobster.

POTPOURRI

12 CLUB MED SEAFOOD SAMPLER

18 SCUBAPRO TRIVIA QUIZ **E.R. Cross**

20 SHOPPERS' CORNER

34 THE WAY IT WAS **E.R. Cross**

48 CALL ME IN THE MORNING **Richard E. Easton, M.D.**

62 SCUBAPRO AUTHORIZED DEALERS



STEPHEN FERBER
Editor-in-Chief
EDWARD MONTAGUE
Editor
ANITA SCHETTINO
Design

Aqua-Field Publishing Company, Inc.
STEPHEN FERBER
Publisher

EVELYN PALOVCAK

Assistant to Publisher

MICHELE A. KOHLER

Marketing Coordinator

EDWARD MONTAGUE

ROBERT ELMAN

Magazine Group Editors

ANITA SCHETTINO

Art Director

LAURIE K. DOYLE

Senior Associate Art Director

SHARON KISSLING

Art Associate

JULIA Y. HOFSTETTER

Typesetting Services

Advertising Representative

SUSAN BERNARD

3965 Gibraltar Dr.

Reno, NV 89509

(702) 825-8407

All photographs, unless otherwise credited, are by the authors.

Fall 1991

SCUBAPRO Diving & Snorkeling is published four times a year by Aqua-Field Publishing Company, Inc., 66 West Gilbert St., Shrewsbury, New Jersey 07702. All rights reserved under International and Pan American conventions by Aqua-Field Publishing Company, Inc., Stephen C. Ferber, President. The contents of this publication may not be reproduced by any method without prior written consent of the publisher. Copyright © 1991 by Aqua-Field Publishing Company, Inc.

The contents of this publication, including especially diving techniques and the use of diving equipment, reflect individual experiences of the writers and are not necessarily the recommended practices of SCUBAPRO, a Division of Under Sea Industries, Inc. Neither SCUBAPRO nor Aqua-Field Publishing Company, Inc., and its contributors shall be liable for any mishap claimed to result from the use of such material.

SCUBAPRO strongly recommends anyone interested in learning to scuba dive seek professional diving instruction in a program certified by one of the national organizations.

Manuscripts and artwork submitted to Aqua-Field Publishing Company, Inc., should be accompanied by self-addressed envelopes and return postage. All contributions receive consideration, but the publisher assumes no responsibility for material submitted. National editorial office: Aqua-Field Publishing Company, Inc., 66 West Gilbert St., Shrewsbury, New Jersey 07702 Telephone: (908) 842-8300.

Cover Photo by
D. Holden Bailey



EDITOR'S PAGE

This editorial was written by John Causey, SCUBAPRO Regional Sales Manager for the Northwest.

Any new business venture requires a high tolerance for risk on the part of the entrepreneur. The stakes are high and failure results in hardship for both family and friends. A new business in a new field involving a radical new approach requires an extraordinary person to succeed. Such was the case with SCUBAPRO when it was founded 28 years ago. Dick Bonin had not only the vision and daring but the leadership qualities, drive and high moral standards to guide a fledgling company to the industry leader SCUBAPRO is today.

To his staff and business associates worldwide, only one word really describes Dick and that is integrity. For both the industry and the people who work for him, Dick Bonin has become a role model par excellence. Soon he will leave SCUBAPRO and an era will end.

Dick has always understood that the growth of SCUBAPRO was the product of many, not one. He expended his energy and talents in every way to guarantee the company would be secure and prosperous for those who followed. He worked untiringly for not only the people at SCUBAPRO, but was also there to help the SCUBAPRO Dealers who have supported us over the years. Dick Bonin succeeded splendidly and the foundation for continuing success is solidly in place.

There are a few around who remember the early days when the company's survival was a daily struggle. But Dick was determined and persevered. He held fast to the company's pledge to sell only through its dealer network in spite of the appeal of more lucrative markets. Then the products came and soon were a litany of reliable innovations that led the industry. Those products were and continue to be quality items that make a person's transition from land to sea safe, easy and comfortable. Under Dick's stewardship, SCUBAPRO has introduced more industry trend setting products than all other manufacturers combined. The legacy Dick leaves at SCUBAPRO assures that the development of new and innovative products will continue.

Even if you do not know Dick personally, you may now understand that he is a very special person. Dick will continue to have a very important role at SCUBAPRO, but his tenure as president and general manager has come to an end. We'll miss you, Dick. God bless.

Watch for
Ocean Sports International's

Buyer's Guide to Ultimate Dive Destinations

Capture The Thrill

Beginning in the fall 1990 issue, *Ocean Sports International* will be bringing readers an in-depth **Buyer's Guide To The Ultimate Dive Destinations** around the globe—from the Caribbean to the Great Barrier Reef, from the South Pacific to the Mediterranean, Africa, and the Indian Ocean.

Look for special sections with information on accommodations, diving facilities, types of boats and equipment, diving skill levels, dive sites, resort courses, after-dive activities, other water sports activities, sightseeing, nightlife, and prices. We'll also give you the low down on what you'll need—visas, bug spray, shots, casual clothing, formal dinnerwear, and sweaters—so you'll be ready for anything in or out of the water.

And there's more, too! We'll be brimming with information—travel delights and fantasy vacation ideas, gear guides, fashion and world-class ocean photography, as well as the hottest articles on diving, windsurfing, and paddle sports.



Subscribe: *Price Per Copy* **Now / 99¢**
(Save \$2.00 off the Newsstand price)

America's #1 ocean sports magazine.

- | | |
|---|---|
| 12 issues
(newsstand price) | <input type="checkbox"/> \$11.95 (3 yrs)
\$35.40 |
| 8 issues
(newsstand price) | <input type="checkbox"/> \$7.95 (2 yrs)
\$23.95 |
| Payment enclosed (thank you) <input type="checkbox"/> | |
| Foreign countries add \$7.00 per year. | |

Name _____
Address _____
City, State, Zip _____
Visa # _____
Mastercard # _____
Exp. date _____

A full-page photograph of a diver in a yellow and black wetsuit feeding a large white dolphin underwater. The diver is at the bottom, holding a small piece of food, while the dolphin is suspended in the water above, its head tilted down towards the diver. Bubbles from the diver's breathing apparatus are visible. The background is a clear blue water.

JoJo

A wild dolphin has adopted
Club Med Turkoise and is
everybody's dive buddy.

Diver tries to hold Jojo's attention with a set of keys. Feeding the wild dolphin is not permitted at Club Med. Spuds, the barracuda often shows up under the dive boats. He isn't fed either!

Steals the Show

BY MARK RUARK



Frollicking underwater with a dolphin, the clown prince of the sea, automatically wins best dive anytime, anywhere awards. Every diver seems captivated by the perpetual, mischievous grin of these playful mammals.

One of the best places to play with a dolphin in the wild is at Providenciales in the Turks and Caicos chain, about 575 miles southeast of Miami. Jojo, the bottlenose dolphin lives there, a free-roaming male who prefers people over his own kind.

Jojo not only enjoys people, he obviously uses us for his playthings. If he's not paid enough attention by a group of divers, he packs up and looks for a friendlier group elsewhere. We humans are expected to supply the entertainment; it's not the other way around.

Provo is also home to the Club Med Turkise, a dedicated-diver facility that is the island's largest scuba operation. Whenever Jojo shows up, there is one rule the Club Med divemasters insist on following: no feeding. The no-feeding rule ensures that Jojo will remain a wild animal, not dependent on human handouts, and that he will come around simply because he enjoys interacting with people, not because of a conditioned response.

Chasing Jojo to touch him is also discouraged, though Jojo will often initiate contact himself. Jojo is a particularly amorous animal who frequently makes love to the anchor line or touches women in rather intimate areas.

The dolphin hasn't always been so approachable. When Turkise opened in the mid-80s, Jojo was afraid to come close. Time, and learning to trust, has emboldened him. These days, you can look Jojo eyeball to eyeball, assuming you can get him to stay still long enough. He

is named after the wife of the first village chief at Turkise; that original Jojo was perhaps the most popular person ever to work at Turkise.

Because it is often difficult to photograph Jojo when there are a lot of divers around, scuba chief Pat O'Donovan arranged a special late afternoon photo shoot at a reef well offshore where we wouldn't be bothered by others. What Pat endured to make sure Jojo posed for us was above and beyond the call of duty.

We found Jojo in the shallows near the dock, one of his favorite hangouts between dives. To lure Jojo away, Pat subjected himself to what's known as a dolphin tow. It involved towing Pat at the

end of a rope as our dive boat motored seaward. Jojo followed us but instead of concentrating on Pat, he spent most of his swim beneath the stern near the prop.

Jojo has a fascination with spinning props. He sometimes gets too close to them, which accounts for the numerous scars on his body. No one is quite sure why he almost nudges the deadly whirling blades. One theory suggests he is attracted by the peculiar sound pitch.

As soon as we arrived at the dive site, we jumped in the water to make sure the fickle Jojo wouldn't leave. He was there, and for a period of time he was content to simply dive bomb us or make faces in front of our masks. Then he began to slowly drift away.

Pat pulled out a large ring of keys which he began shaking. The new sound intrigued Jojo. For the rest of the dive, he bounced around us, turned somersaults, stood on his head and flapped us with his tail. All the aerobic activity of trying to keep up with him to shoot pictures wore me out.

My last glimpse of Jojo was a silhouette of him floating about 10 feet below the surface, his body arched, with the rays of the setting sun surrounding him like a halo. It was a beautiful sight, one I never saw repeated on successive dives. Incidentally, snorkelers have just as good a chance of seeing Jojo as divers, sometimes even better, because snorkelers seem to pay more attention to him.

All this time in the water with a tank on my back was a big change from when Turkise first opened. Initially, diving was not included as part of the prepaid vacation package but was an extra charge. I snorkeled a lot out front just a few weeks after Turkise began operation, and I came away with the impression that Provo had some of the best snorkeling anywhere: lots of small coral

Mark Ruark is a Florida-based writer and photographer who frequently covers the Caribbean dive scene.

gardens with a good variety of marine life, including sharks.

It wasn't until just a few months ago that I was able to return to see the deep reefs and test the standards of *Turquoise's* dedicated dive facility. Although diving is offered at many Club Meds, it's usually on a casual basis except at four villages where diving is a priority sport: *Turquoise*, St. Lucia, Sonora Bay in Mexico, and Tahiti.

To many people, the idea of a dive vacation at a Club Med is a bizarre if not at least an uncomfortable idea. After all, how serious can the diving be? Club Med is best known for its party-til-you-drop philosophy.

At Club Med *Turquoise*, diving is taken very seriously. The highly-trained divemasters are some of the Caribbean's most professional. Furthermore, *Turquoise* provides (free of charge) the best state-of-the-art diving equipment. The continual flow of divers to Club Med *Turquoise* makes it perhaps the most popular of all the Club Meds in this hemisphere; the three dive boats almost always leave the docks filled.

In stocking its PADI five-star, full-service dive shop, Club Med selected SCUBAPRO regulators and BCs (not only for *Turquoise* but all its dive operations in this hemisphere). Masks, fins and snorkels are also provided, but divers should bring their own since these tend to be more individualized in terms of fit and comfort. But nothing else; leave it to the Club to supply it. The dive shop even

furnishes lights for the night dives.

Three boats serve divers full time, with a snorkel boat in reserve for periods of peak activity. The 46-foot *High Rider*, flagship of the fleet, carries up to 33 passengers on two-tank dives and 40 on one tank, with a fully loaded speed of 12 knots. The 27-foot *Santa Fe* ferries up to 27 divers for either one- or two-tank dives. The 30-foot *Coryphene* hauls a maximum of 18 divers. The reserve snorkel boat, *Miss Turquoise*, can accommodate up to 32. That's as many as 117 people in the water at one time.

Divers are divided into groups of six or eight with their own guide, who provides a detailed briefing. The guide also checks each person's equipment just before they step off the stern. Morning dives are one or two tanks, depending on how long it takes to reach the dive site. The boats MUST be back in time for lunch. The afternoon is a single tank dive.

On return to the boat, divers find a more than ordinary snack to remove the salt taste: freshly cut pineapple (the real thing, not from a can), melon and cheese. Well, the food always has been one of the special Club Med features.

Most of the dive sites are along the reefs and wall that run parallel to shore, about a 10-minute run from the scuba shack. Dives are usually limited to a maximum of 80 feet. Some of the most popular sites are Two Sharks, a grooved reef system starting at 40 feet and descending to 120; the more distant

Pine Cay 1 and 2, a maze of valleys and canyons and coral heads; and of course the fabled Northwest Wall, more than an hour away.

The Wall is either a superb dive or a murky wasteland depending on the visibility. Late summer when the water warms up tends to be one of the worst times. Northwest Wall has a gradual drop-off in several spots, but the most spectacular is the sheer drop at the Abyss. Sponge growth on the vertical wall face can be spectacular.

Divers sometimes make up as much as a fourth of the Club's 600 guests. All divers are housed in three-story, motel-style buildings closest to the dive shop, so it's just a short trek for those bringing their own equipment (few do).

Many non-divers wishing to alter their lamentable status are also housed in this section. Non-divers have two ways to improve themselves. One is to take a resort course (no charge) which enables novices to accompany a guide on a boat dive to one of the shallow reefs. In addition, completion of the resort course brings with it a special card that permits shallow dives at other Club Meds as long as divers reenter the water within a year of qualifying. Or it's possible to go for full certification, including Open Water 1 and 2. Those who come with an open water referral can also complete their final dive for certification for just \$25.

Even the most hard-core diver usually finds himself taking part of a day off to

Travel Tips

GETTING THERE

Pan Am has several flights weekly to Provo, but the easiest way is to fly Club Med's own charters which depart from both New York and Miami. The Miami charter leaves near dawn, so early that it is impossible to connect without overnighting in Miami. The Club can easily make arrangements for this, as it is a nuisance to have to lose a day to travel in order to fly the Club charter. The charter cost from JFK runs about \$450, from Miami \$350. In addition, the air package also includes round-trip transfers to and from the Club in Provo.

ACCOMMODATIONS

Most rooms are double occupancy, but it is possible to get a private room at an extra charge. Club Med

long has catered to single travelers so it's not necessary to be traveling with someone in order to get the cheaper, double occupancy rate. The Club will select a roommate for you (sorry, same sex only), which automatically gives you a dive buddy for the week unless the two of you take such an immediate dislike to each other you want to cut your roomie's air hose. Typically, that doesn't happen even if one person is a party animal and the other someone who prefers sleep and quiet.

The rooms are adequate but, like Club Med rooms everywhere, nothing to encourage loitering, particularly in summer. The windows all face toward the water, but the potentially cooling breeze is always from the opposite direction. Ceiling fans provide the main ventilation.

A one-week land package runs

about \$1,000 a person for seven nights, eight days. It's a good value when you consider it includes diving and all other sports, the elaborate meals with wine and beer at no charge at lunch and dinner, plus room. That figures out to less than \$150 per day, which for the Caribbean is a bargain. A single room is an extra 30 percent of the land package price. When space permits, *Turquoise* also takes guests on a daily basis, at \$150 per day. Unlike the rooms at many Clubs, the doors here have locks.

Provo is rapidly developing with a new Ramada already open and a Sheraton on the way in addition to several smaller hotels. The rooms at these other resorts are certainly more lavish, but most people don't go on dive vacations to spend a lot of time in their rooms.

Corals and sponges attract divers to the waters of Provo.



WHEN TO GO

Provo sometimes endures cold fronts in January and February which can create extremely rough conditions as well as chill the air temps. Late summer is often the period of plankton blooms and cloudy water. The rest of the year, conditions are usually perfect (barring hurricanes).

ELECTRICITY

U.S. standards, 110 volts, 60 cycle. However, electrical outlets in the rooms are almost nonexistent. You might want to bring a multiple outlet.

DOCUMENTS

U.S. passport, voter's registration card or birth certificate and Club Med membership.

For more information, call toll-free (800) CLUB-MED. **\$**

enjoy some of the other Club Med Turkoise facilities. The beach in particular demands attention—lots of it. The Club village is located at Grace Bay on Provo's best beach, which also is one of the Caribbean's most beautiful beaches. The truly spectacular strip of sand is bordered by incredibly brilliant turquoise water that gives the village its name.

Like all Club Meds, Turkoise is a summer-camp-for-adults on a slightly sophisticated level. Just about every activity imaginable—water skiing, sailing, weight room, arts and crafts center—is offered free of charge. Staff and guests have different names (but not name tags). Instead of the wolverines or grizzlies, Club Med personnel are known as GOs (short for "gentle organizers" and pronounced "gee-oos") and guests are called GMs "gentle members."

There's lots of singing and hand clapping—that's how the staff greets you when you arrive and depart and it's a key feature of the nightly stage shows.

And there are plenty of silly games, most of which take place near the bar (the one place where nothing is free and the drinks quite pricey).

Unlike summer camp, you're on your own to do only what you want, even if it's just to roast at the pool or on the beach for an entire week. But hardly anyone goes to a Club Med to vegetate. There's just too much to do, and it's impossible not to get caught up in some of the activity.

Still, it is the diving that is the No. 1 priority. Jojo the dolphin is not Provo's only underwater attraction. Spuds, the five-foot barracuda, attracts quite a bit of attention, too, but in a different way. Spuds, named after the dog in the Budweiser beer ads, generates a slight thrill of terror the first few times divers see him.

Spuds is not nearly as sociable as Jojo; he may show up, he may not. If he does, he normally stays in the shadows just under the boat. People react dif-

(Please turn to page 78)

Club Med Seafood Sampler

One of the highlights of any Club Med vacation is mealtime, a sybaritic experience that transforms even the most finicky eaters into gluttons. For the first few days, everyone gorges on the food, eating far more than they need, as if afraid it might run out before week's end. Of course, there always is enough food, and after the first few days most guests revert to eating habits somewhat more subdued than their initial feeding frenzy.

Seafood is a Club Med specialty. Even those who normally won't go near anything that wears fins or shells usually succumb to at least one of the many seafood dishes. Club Med doesn't rely on just one or two recipes to tempt its diners but a whole array of dishes that incorporate that distinctive French flair.

Club Med Turkoise is perhaps the most popular of all the Club Meds in this hemisphere, and its quality food is one reason. Following are several recipes from Turkoise that anyone can duplicate at home.

Reducing the recipes so they feed only a handful, instead of several hundred was a bit of a chore for the Club Med chefs, but we are grateful. It's not a favor they always do.

Shrimp Cocktail

Ever notice that some shrimp cocktails are delicious while others are bland concoctions? This shrimp cocktail is guaranteed to be one of the memorable ones. It's as much a salad as a shrimp cocktail.

2 lbs. cooked and peeled shrimp
3½ oz. diced onion
3½ oz. diced cucumber
3½ oz. diced tomatoes
4 lettuce leaves cut in strips
cocktail sauce

Cut the shrimp in half lengthwise. In a large cocktail glass, place the lettuce at the bottom. Add the vegetables on top of the lettuce. Place the shrimp over top of the vegetables. Pour a little of the cocktail sauce over the shrimp. Garnish with a single shrimp and a slice of lemon. Serves 8.





Stuffed Crab

Too many crab recipes overlap the bread crumbs so that's all you notice. This one leaves it up to you about how much to add, depending on your taste. It's another quick recipe that takes only about 30 minutes.

1½ lbs. crab meat
3½ oz. onion
¼ bunch parsley
4 cloves garlic
bread crumbs
2 cups milk
salt, pepper and hot pepper sauce

Chop the crab meat, onion, parsley and garlic in a mixer. Add milk. Add just enough bread crumbs to obtain a mixture that's to your liking. Season with salt, pepper and hot pepper sauce to taste. This stuffing can be filled in crab shells, placed in individual dishes or one large casserole. Place in an oven heated to 350 degrees for 10-15 minutes.

Scallops with Small Vegetables

Scallops mixed with vegetables is an unusual treatment. This is a simple, fast recipe that can be whipped up in less than 20 minutes from start to finish. It's ideal either as an appetizer or main dish.

2 lbs. fresh scallops
35 oz. heavy cream
½ lb. carrots
1 Tbsp. butter
salt and pepper
Cayenne pepper
½ lb. leeks, white part only

Cut the vegetables into thin juliennes. Place the butter in a skillet and when hot add the scallops. Stir continually for about 2 minutes. Remove the scallops from the skillet. Add the carrots and leeks and stir for another 2 minutes. Add heavy cream and let reduce by half. Just before serving, add the scallops to the skillet, heat for 1 minute. Add a pinch of cayenne pepper. Salt and pepper to taste. Serves 8.

Fresh Pasta with Crayfish and Basil

Seafood pasta is extremely popular these days. The following is not a recipe for dieters unless they wish to throw caution to the wind on one of their staple days.

4 spiny lobsters, each about ¼ lb.
2 lbs. fresh pasta
35 oz. heavy cream
1 bunch basil (chopped)
salt and pepper

Cook the lobster in boiling salt water for 5 minutes. Remove the meat from the tails and dice it into ½-inch cubes. Next, place the heavy cream in a skillet and heat with half of the basil. Add the lobster. Season with salt and pepper to taste. Place the cooked pasta in serving dishes and place the sauce over the pasta. Garnish with the rest of the basil. Serves 8.

Seafood Casserole

Many people prefer to see squid through a mask faceplate rather than on a dish served to them. If so, the squid can easily be eliminated in this casserole, since there are so many other goodies to make up for it. You can just add another pound of your favorite seafood to make up for the squid.

1 lb. cleaned squid
1 lb. raw peeled shrimp
1 lb. scallops
1 lb. fish fillets (red snapper is good)
¾ oz. onion
1 tsp. chopped garlic
½ bunch parsley
½ bottle white wine
3 Tbsp. tomato paste
5 Tbsp. olive oil
1 Tbsp. fish base, available in Oriental markets
salt and pepper
cayenne pepper

Dice the squid, shrimp and fish to the size of the scallops. Heat the olive oil in a skillet over high heat. Cook the squid for 2 minutes and add garlic and onions. Add remaining seafood and stir continually over high heat for approximately 2 minutes. Add the tomato paste, white wine and the fish base. Bring to a boil and remove skillet from heat. Season with salt and pepper and cayenne pepper to taste. Garnish with chopped parsley. For a change of taste, you may add 1 Tbsp. of Ricard or Pernod to the skillet just before the white wine. Serves 8.

Raspberry-Almond Souffle

Of course, no compendium of Club Med recipes would be complete without at least one of its famous desserts. And what is more French than a souffle?

½ cup blanched whole almonds
3 packages (10 oz. each) frozen raspberries with syrup, defrosted
1½ Tbsp. unsalted butter, at room temperature
2 Tbsp. sugar
5 egg whites, at room temperature
Pinch of salt
¼ tsp. almond extract

Butter the bottom and sides of a 4-cup souffle dish or mold. Dust the butter surfaces with sugar and refrigerate for 30 minutes. This will create a rough texture in the mold which will be easier for the souffle to climb the sides and rise properly.

First, grind all the almonds in a food processor or blender. Then puree the raspberries in their own syrup. Press the puree through a sieve to remove the seeds. Put the raspberry puree in a 2-quart saucepan and cook over moderately high heat for 40 minutes or until the puree is reduced to thick jam; stir often. Measure out ½ cup (about what will be left) and mix with the almonds. Set aside.

Preheat oven to 400 degrees. Beat the egg whites with the salt until you have stiff peaks. Mix the almond extract with the raspberry-almond mixture, then fold in the beaten egg whites. Pour into the prepared mold and place on a baking sheet. Put in the oven. After 2-3 minutes, reduce heat to 325 degrees and bake 15-20 minutes until the souffle is puffed and brown on top. Serve immediately. For 6.





BY JENNIFER KING

A Crash Course on Beach Dives

To master beach entries, you first must understand waves and then learn proper technique.

Waves are formed by three phenomena: wind, earthquakes, and the gravitational pull of the moon and the sun. The gravitational pull of the moon and sun form a type of wave known as a "tidal" wave or seiche, which forms the tides. A second type of wave is formed when an earthquake or undersea volcano sends out a series of shock vibrations which spawn huge, fast moving waves with great destructive power. These are the fearsome tsunami. However, by far the most common and most easily observed are the wind driven waves, available for viewing on any coast and most large bodies of water.

In order to understand wave dynamics, we must first visualize a perfectly calm section of the sea. A wind starts blowing across it, and begins to impart some of its energy to the surrounding waters. Small ripples begin to occur. These ripples are called capillary waves, or "cat's paws." Ripples create more surface area for the wind to catch, and the ripples grow to form small steep waves. As the wind increases, the tops of the waves break off as whitecaps. More wind energy is transferred into the water, forming a longer wave as the water moves away from the wind origin.

The effect which the wind has in

Jennifer King is a NAUI, PADI and Los Angeles County Diving Instructor and the author of two books, California Diving Techniques, and 50 Ways to Save the Oceans. This is her first contribution to SCUBAPRO Diving & Snorkeling.



building waves is related to three things: The velocity of the wind; the duration of time in which the wind blows; and the area over which the wind blows, known as the "fetch."

When a storm occurs, the sea often becomes "fully developed" near the storm center. This means the sea has absorbed as much energy as possible from a wind of a particular velocity. To increase the size of the waves, would require more wind or a larger area of fetch.

As the waves move away from the storm center, they assume a uniform pattern and begin to move in "trains" of comparable time and height. These wave trains form the prevailing swell. The wave has now assumed definite parameters. There is the high point (crest), low point (trough), and distance from crest to trough (wave height). The wave length is measured by the distance from crest to crest. The time of a wave, its "period" is measured in seconds by the time it takes for one crest to pass to the next.

The motion of water in the open sea is complex. Waves are carriers of energy imparted to them by the wind. The motion carries the wave forward, but the water remains stationary. This is best illustrated by the example of snapping a rope. The rope stays in your hand, but the motion carries down the length of the rope.

In a deep water wave, the motion of individual particles at the surface follows a circular orbital pattern. The orbital radius falls off quickly with depth. Normally, at a depth of half the wave length,

the orbital radius is reduced to four percent of its surface value. This means that underwater motion moves back and forth rather than circularly, and the speed of the wave particles decreases rapidly with depth.

As the swell approaches the shore, several things happen. The circular orbital pattern of water movement becomes elliptical and flattens with shallowing depth. On the bottom, the water particles oscillate in a straight line parallel to the direction of a wave travel (surge). As the wave feels bottom, the wave length decreases, and the steepness increases.

At a depth of about 1.3 times the wave height, the wave top will spill over, becoming a breaker. These breakers hit the beach at easily observed intervals known as "sets" and "lulls." As different swells from different storm areas converge near the surf zone, they can augment or diminish one another. Two sets of crests can build into one giant crest. Likewise, a crest and trough combination can cause a small crest. As the

know how they behave when they make contact with the land.

Different beaches can affect the surf in different ways. A steep beach will most likely give rise to a plunging breaker. This is a wave where all the energy is concentrated in one dynamic plunge. On a steep beach, there are no obstacles causing the wave to slow down until it actually hits the slope. Plunging breakers are high energy waves which can pack a large wallop. However, these beaches are often easy to dive since they drop off so rapidly. Timing of the sets is essential. You should wait for the lull and make a quick entry. Usually, the beach drops off so quickly you are in deep water and out of the surf zone almost immediately.

A shallow beach is more likely to have spilling breakers, where the wave energy is dissipated slowly, and the water tumbles down the face of the wave. Places like this can have a large area of whitewater, and the waves can actually reform and break again over a series of shoals. Spilling breakers are low energy

In calm conditions, beach entries are simple, but when the surf is up, understanding wave dynamics and using correct techniques are essential.



waves bend, or refract around the coastline, they are formed into easily defined areas of larger and smaller waves. The larger waves are called the "set." The set usually consists of anywhere from three to seven large waves, followed by a similar number of small waves known as the lull.

As the wave rushes up the beach, gravity will tend to pull it back down into the ocean again. This results in a back rush, often called "undertow." The back rush can be strong enough to suck a diver off his feet, and deserves respect.

The "surf zone" is the area made up of the breaking waves, disturbed foamy water, and back rush. It is often called the "drop zone" by divers, due to its propensity for dropping divers, and their equipment! Once you understand the dynamics of the water, it is important to

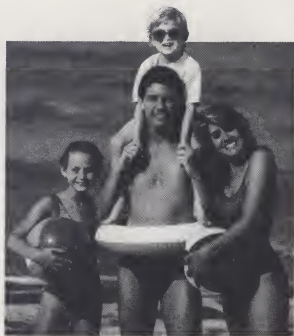
waves due to the gradual release of wave energy.

Surprisingly enough, shallower beaches make for harder entries. They result in a long wade through whitewater before there is enough water to snorkel out through. It is best to make this type of entry at a slow pace, bracing for the wave sets as you go forward.

The same beach can change from season to season, resulting in a difference in the way the waves break. Winter beaches usually are steeper, and have less sand. This is due to increased wave action in the winter, which moves the sand offshore. Summer beaches, conversely, have more sand and are shallower due to fewer storms.

Techniques for surf diving vary from beach to beach, but some things are universal. First, you should be familiar

"We chose NAUI for two obvious reasons."



"Is scuba diving safe enough for you and your family?"

"When we decided to try scuba diving on our vacation, we wanted the best training possible. And the best to us means caring attention by a qualified teacher and an emphasis on safety. With our NAUI instructor we got both. Thank you NAUI!"

NAUI is committed to safety through educational excellence. This commitment extends from our family to yours. We train the finest underwater educators in the world, and it's not easy to become a NAUI instructor. But then we understand the importance of family, and we won't invite anyone to join our NAUI family unless they would be welcome in yours.

To learn more about our commitment, look for the NAUI logo in your yellow pages, or write NAUI, P.O. Box 14650, Montclair, CA 91763, for a listing of NAUI educators and programs in your area.



Safety Through Education

with the beach you are going to dive. Is it steep or shallow, sandy or rocky? What is the depth and bottom topography? Are there any offshore bars, reefs, or submarine canyons? How does the beach face into the sea? Any of these questions can be answered using a marine chart or chart guide. Knowing type and location of undersea structure can help to determine how the waves are going to break on shore. For example, sandy beaches often have moving rip currents, while rocky beach rips are more fixed. A fixed rip is often stronger. A submarine canyon right offshore can give you better visibility since the drifting sand is deposited in it. Knowing the direction of the beach face will allow you to determine how the prevailing swell is going to affect it.

Other things which you can check before beginning your dive include the swell direction, wave height, wave period, and the time and height of the tides. These are broadcast on NOAA radio stations and often listed in local newspapers.

Once you reach the beach you will want to observe conditions before making an entry. Perform a visibility check from a high place overlooking the beach. The water should look blue. If it looks green or gray, that usually means a lot of suspended sediment and poor visibility. Notice how the waves break. Is the curl of the wave clear, or cloudy with dirt suspended in the foam?

Notice the wave action. Do the waves break a long way out with a large area of whitewater, or plunge down right near the beach? Make sure to time the wave sets, noticing how many large waves there are before the lull. Notice how many waves comprise the lull. Time the period of the waves. Usually, a longer period means the waves are less powerful, where a shorter period spells faster and stronger waves.

Decide on your entry and exit points after surveying the shoreline and the wave patterns. Look for rip currents, and offshore bars. Try to determine longshore current and its direction.

Once you have done the preliminary check, you are ready to suit up and make your entry. Surf entries vary from region to region, but unless it is an extremely calm day, you should always follow some of the same procedures.

Wear, do not carry, your gear! This means you should be fully suited up and ready to go before the entry—mask on face, fins on feet, hood up, etc. A good many people have been tumbled in the surf without their gear on, resulting in loss of gear, disorientation, and panic.

Think about it: Have you ever tried to swim in full gear without your fins on? Add to that feeling being unable to see or breathe and you can understand a few

problems of unprepared surf entries. The proper way to make sandy surf entries consists of the following steps:

☐ Fully suit up with the exception of your fins, and make your way to the waterline.

☐ Watch the surf at all times. You should have a good idea of the set, lull pattern by now. Put your fins on during the last few waves of the set.

☐ Put on your fins using the "figure four." This means you start out facing the surf with one hand on your buddy's shoulder. Cross your leg over the other knee to make a number 4, and slip your fin on. Turn around, hold your buddy's shoulder, and put the other fin on with the figure 4. You should now have your back to the surf.

☐ When the lull arrives, you and your buddy start backing into the surf with a shuffle. Always watch the surf! You should look over your inside shoulder so that you can watch your buddy at the same time. Some people prefer to hold hands, but we find that it adds dramatically to the "domino theory" if a large wave hits. You can keep track of your buddy just as well if you watch him.

☐ As you are shuffling, keep one hand on your mask to prevent dislodging. Keep your knees bent.

☐ When a wave approaches, turn sideways to the surf (less surface area for the wave to impact you), bend your knees, and meet force with force—lean into the wave. If you lean away from the wave, it will knock you down. Once the wave has passed, turn backwards again and shuffle.

☐ Once you reach the point where the water level is about at your knees you can "drop and roll." Drop face down, and snorkel out the rest of the way.

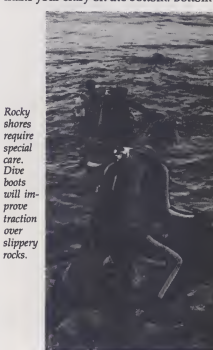
☐ Should you encounter any breaking rollers while snorkeling, simply take a breath and duck under the face of the wave. Knowing what you do about wave dynamics you can easily see how the motion of the water will tend to kick you up under the wave. Do not lift up and try to go over the wave. The water motion will pick you right up and you will go "over the falls" backwards.

☐ If you should fall while making your entry, you can either crawl back up on the beach and start over, or snorkel out depending on the water depth. Again, duck under any breaking rollers on the way out.

You can either snorkel or scuba out to your selected dive spot. If the waves are big, you might encounter surge at the site. Surge is fairly easy to deal with, but can be disconcerting. Surge is felt as a back and forth motion, and it can toss you about quite violently. Fighting the surge will exhaust you and cause you

to use up your air. Your best bet is to follow the example of the fish. Watch how they let the surge push them one way, then the other. They end up in exactly the same place they started. You can let the surge do this to you, keeping one hand ready to fend off rocks, or you can use the surge to make great forward motion. When the surge tries to force you backwards, hang on to a nearby rock. When it pushes you forward, kick with it. You can make a lot of headway with this technique.

To exit at the end of the dive, again utilize your knowledge of wave action to help you. Surface from the dive, and get a good handle on how the surf has changed since you went in. Make sure to retine the sets and lulls. You can either snorkel in, or drop down and make your entry on the bottom. Bottom



Rocky shores require special care. Dive boots will improve traction over slippery rocks.

entries are easier, but there is an argument against them at the moment because of the possibilities of air embolism if a large wave passes overhead.

To snorkel in, use the side flutter kick and keep one eye on the surf behind you. Right behind the surf zone, regroup and wait for the lull. Once the lull has started, kick in while always watching behind you. Should a large wave or set come up, turn and face the wave, ducking under it like you did on entry. Swim in until you are able to crawl up the beach on all fours. If the water is calm, you can try to walk out—just keep in mind that your macho image will be shattered if you fall!

Surf and beach diving are a lot easier once you understand the dynamics of nature. Understanding basic oceanography helps us to appreciate the force of the sea, and better deal with it. **S**

SCUBAPRO

Trivia Quiz

Diving is the art of going underwater and remaining for a considerable time. Depths reached, time submerged, and the reasons for being underwater in the first place are the goals and motivations of individual divers. The first divers were undoubtedly naked swimmers of primitive times who simply grabbed a breath of air and held it as they plunged downward toward their objectives. When their near bursting lungs and pounding hearts demanded relief, they scrambled frantically toward the surface. The counterparts of those early divers are the purist skin divers of today who enjoy the challenge, the freedom, and the exhilaration of being one on one with the sea. Using only masks, swim fins, and snorkels they perform astonishing feats of diving during underwater hunting contests or simply because they are able to do so.

This Trivia Quiz is designed to test your knowledge of the many kinds and types of diving equipment, from snorkels to submarines, that have been developed and used in the past, and in some cases are still in use today. They may be either real or fictional but all of the habiliments, machinery, material, apparatus and accessories in this quiz have been described; either in scientific journals or in books, movies or TV shows. Some were used successfully and some with no success at all.



This is a German Atmospheric Diving System. A modified rig was used to salvage \$3 million in gold from the liner *Typpi* sunk in 400 feet of water.

1. This may be a difficult question for some, so you get a multiple choice. For five points, indicate the real kind of life represented by the friendly animal in the movie, *The Abyss*.

- a. Comb jellyfish
- b. Sea anemones
- c. Corals

2. Now, on with the diving gear! The hero of *The Abyss* made a deep dive to several thousand feet to defuse an atomic device. For this fantasy dive he used a diving system involving

3. A diving physiologist successfully used the above method to provide oxygen for submerged animals during experimental test dives in the mid 1960s. For five strangling points, name the developer of this diving technique.

4. A small unmanned device for remotely monitoring underwater activities was used to watch the hero on his very deep dive. For five points, this device is usually known as a remotely operated vehicle or ROV.

True _____ False _____

5. Enough of the abysmal abyssal. Probably the earliest device adapted to help divers keep their faces submerged so they could see underwater was a hollow reed. We now use scientifically designed, colorful snorkels instead of reeds. For five points, what is the approximate maximum depth a diver can be submerged and still breathe safely and comfortably through a snorkel.

6. The earliest recorded design for a swimming aid to be worn on the feet was provided by:

- a. Owen Churchill
- b. Leonardo da Vinci
- c. Pirelli.

7. Submersibles have intrigued mankind for centuries. For five more submerged points, match the inventor with his first submarine.

- | | |
|----------------------------|------------------------|
| 1. David Bushnell (1776) | a. <u>Plunger</u> |
| 2. Robert Fulton (1800) | b. <u>Turtle</u> |
| 3. John P. Holland (1875) | c. <u>Argonaut Jr.</u> |
| 4. Simon Lake (about 1894) | d. <u>Nautilus</u> |

8. One of the above inventors delivered the first successful submarine (not one of the submarines listed above) to the U.S. Navy in 1900. A clue: The successful boat was named for him. Who was this inventor and the name of his boat.

9. The Argonaut, Jr., listed above was made of two layers of pine boards with a layer of canvas between.

True _____ False _____

10. The first submarine boat designed by John B. Holland in 1875 was propelled:

- | | |
|---------------------|-----------------------|
| a. By hand. | c. A gasoline engine. |
| b. A diesel engine. | d. A steam engine |

11. An Englishman, Augustus Siebe, is credited with inventing the first hard-hat diving dress to be used with a compressed air pump in 1819.

True _____ False _____

12. To survive, all animals, including those humans called divers, must have a breathing medium containing the proper percentage of oxygen. This should be an easy one. For five gaseous points, match the type scuba with the mixture of gasses usually used:

- | | |
|------------------------------|---|
| 1. Open circuit Scuba | a. Usually a mix of oxygen and a diluent gas. |
| 2. Closed circuit scuba | b. Usually compressed air. |
| 3. Semi-closed circuit scuba | c. Usually pure oxygen. |

13. A few years ago, over \$75 million in gold bullion was salvaged from the British cruiser HMS Edinburgh sunk in May, 1942 in 800 feet of water. Up to eight divers were kept under pressure equal to the depth of the sunken vessel for over a month. This kind of diving is called.

14. At the near freezing water temperature at depth, the divers were kept warm by:

- a. Circulating hot water through their suits
- b. By wearing electrically heated underwear.
- c. By wearing many layers of long-johns.

15. Following the successful recovery of the gold, the divers needed a total of seven days decompression. This decompression was provided in a DDC, or _____.

16. Modern underwater TV used by recreational divers is small, easily handled, and can record the beauties of a dive even under poor lighting conditions. This was not so for the first underwater TV that made its debut in July, 1946, at the atomic bomb tests at _____.

17. Saturation diving is a term used to designate a condition in which a diver's body has absorbed as much as possible of the inert gas used during a dive at a particular depth.

True _____ False _____

18. The theory of saturation diving was first proposed in the late 1950s. For five saturated points, match the SAT systems with their principle developers.

- | | |
|----------------------------|----------------------------|
| 1. Man-in-the-Sea I (1962) | a. Capt. George Bond, USN |
| 2. Genesis Experiments | b. Captain J.Y. Cousteau |
| 3. Conshelf I | c. Edwin A. Link |
| 4. Sea Lab I | d. Marine Contracting Inc. |
| 5. Cachalot | e. U.S. Navy |

19. Of all the aids available to help divers enjoy visits in and into the waters of the world, four are considered essential safety aids for all diving. They are _____, _____, _____ and _____.

20. Recreational diving is healthy, educational and exciting, a sport that can be enjoyed by nearly everyone. Divers today have scuba and other life support equipment to provide easy, safe access to depths of 135 feet or so. Diver destinations have been developed that offer many exciting aspects of sport diving. Fantasize with me about the future of recreational diving. I would suggest that some or all except one of the following methods of getting and remaining underwater for fun will be offered within the next decade. For five points see if you agree with me on the types of diving rigs that will someday be available for the recreational diver.

- | | |
|-------------------------------------|---|
| a. Helmet air diving | d. Fluid breathing |
| b. Short duration saturation diving | e. Manned submersibles |
| c. ROV systems | f. Articulated diving bells (Jim Suits) |

The future in our quest for adventure and knowledge and understanding of the underwater world will be exciting. Go forth into the fragile seas gently, carefully and safely.

As you ponder this quiz think back about the scenes depicted in movies, TV programs, and in books and magazines. Or think about the things you have seen in your own diving adventures. The answers to these questions will be there. But remember, SCUBAPRO reserves the right to be wrong, at least until someone corrects any errors.

Readers are invited to join the fun and submit questions to be used in Trivia. Let us know if there are some subjects you would like to have us explore. For this quiz, if, without looking at the answers, you scored:

0 to 5 - You need to see some more diving related films.

6 to 10 - Try to see, speak and hear more diving.

11 to 15 - You are ready to live your U/W fantasies.

16 to 20 - You have already lived your U/W fantasies.

Keep it up. You will be glad you did.

The answers are on page 22.

\$

SHOPPERS' CORNER



QUICK CLIP SNORKEL RETAINER

Removing a snorkel from a mask strap can now be done with just the press of a finger. The SCUBAPRO Quick Clip Snorkel Retainer allows you to quickly detach the snorkel so your mask can be stored safely in its protective case to keep the lens scratch-free.

One part of the Quick Clip connects to any snorkel with a retainer, like the SCUBAPRO Clipper Shotgun Snorkels. The other Quick Clip part connects to the mask strap. Then for a fast, secure attachment of the snorkel and mask, just snap the two parts together. To detach them simply press the detent button.

The Quick Clip is made of strong, non-corrosive material. It is black and coordinates with any color mask and snorkel. See your SCUBAPRO Dealer about this ingenious device to make your diving easier.

PELICAN BRITELITE

Pelican Products has introduced the new Pelican Britelite. Powered by 4 "D" cell batteries, the compact, lightweight Britelite boasts 6 volts, 7 watts, 60,000 candlepower, and 8 to 10 hours burn time. The Xenon lamp contains two filaments for safety back-up light. The Britelite is submersible to 600 feet. For more information contact: Pelican Products, Inc., 2255 Jefferson St., Torrance, CA 90501.



SSI TRAINING SYSTEM

Scuba Schools International recently introduced the Open Water Diver Training System, a complete state of the art diver training program. Since its introduction, the SSI training system has received great acceptance from those in the diving field.

For the first time ever, a certification agency has produced a diver educational system that incorporates full-motion videos. This first in the industry allows students to see complete exercises and skills that they are expected to learn and perfect. Another benefit of the new system for students is that the manual and videos have been created to pare down the "nice-to-know" to the "need-to-know," thus emerging a clear, concise, user-friendly educational system.

The SSI Open Water Diver Training System is available through your local SSI Member Store. For the SSI store nearest you or store membership information, call SSI at (303) 482-0883.

WHITES SCUBAPRO WOOLIES

Originally designed to be worn under the SCUBA PROLITE™ Drysuit, these attractive silver and black "underwear" woolies can also be worn by themselves for comfortable cozy warmth, before and after a dive.

Successfully used in ski wear, the polypropylene material provides a wicking action (pulling moisture away from the body through the fabric) keeping the body dry. Additional padding on the spine and back area add to the comfort while wearing a drysuit and scuba tank. Two convenient pockets keep your hands warm or carry personal items also have an extra layer of fabric.

Available at authorized SCUBAPRO dealers.



GORILLA FINS

SCUBAPRO is introducing Gorilla Fins, a tough, powerful advancement in diving. Combining an entirely new, space-age elastomer resin with the design and comfort of the highly successful Sea Wing Fins, a dramatic increase in power is achieved.

The new SCUBAPRO Gorilla Fins have excellent resilience. This rebound characteristic acts like a built-in spring to add greater thrust to every kick.

The special fin materials increase the strength in the concentrated flex zone on the fin blade. This advanced composition is also tough and resistant to abrasion.

The Gorilla Fins have the time-tested SCUBAPRO Fin Buckle for quick, secure adjustment. They are black and come in two sizes large and extra large.

Gorilla Fins are not for everyone. They are for stronger swimmers who like a stiffer fin. If you spend a lot of time in the water and want a rugged fin that gives you a stronger, tougher kick, check out the Gorilla Fins at your SCUBAPRO dealer.



NEW SEA SHIRTS

A great new series of T-shirts are now available from SCUBAPRO. They include the Fununder Sea Shirts, Name Drop Sea Shirt and the Gorilla Sea Shirt.

The T-shirts are made of 100% machine washable cotton. All of the designs are brilliant and fade-proof. They come in sizes small through extra large.

The eye-catching new Fununder Sea Shirts radiate the diver's personality, sense of adventure and love of diving. The Fununder Sea Shirts are outstanding ice breakers and conversation openers. Each of the scenes are ways which divers have fun, such as... Spearfishing, Lobster Diving, Exploring, Underwater Photography, Night Diving, Artifact Diving, Wreck Diving, Snorkeling, and Gorilla Fins.

The Name Drop T-shirt has a full-color, beautiful underwater scene, with coral, tropical fish and divers. A prominent sign is blended into the reef landscape. The sign can be imprinted with any type of short message.

Dive clubs can have their name imprinted on the sign. The Name Drop Sea Shirt is a walking advertisement and is super for promotional messages.

"Are you tough enough to kick a gorilla?" The Gorilla Sea Shirt commemorates the new Gorilla Fins from SCUBAPRO. A dramatic island scene shows an angry gorilla holding a SCUBAPRO Gorilla Fin over his head. This is an eye-catcher.

Contact your Authorized SCUBAPRO Dealer about these hot new T-shirts.

SCUBAPRO PROLITE™

Thirty years of technology have gone into designing the SCUBA PROLITE™ Drysuit. The Drysuit eliminates the cold, wet feeling of a wet suit, is easy to get in and out of and offers unrestricted movement. Features like the GATOR LEG which restricts air flow to the lower extremities, the heavy duty knee and shin pads that absorb shocks and abrasions, seams that are mauler stitched then tape welded, plus Canada Dry II valves, zippers, workmanship and materials are all backed by the industry's most exclusive warranty.

The attractive hi-tech blue and black design makes a fashion statement on every dive trip. Manufactured from 420 Denier polyurethane backed nylon, SCUBA PROLITE™ Drysuits have suspenders that hold your suit comfortably in place underwater or topside.

All suits are available with Whites "underwear" Woolies that can be worn before, during and after your dive, and are available at authorized SCUBAPRO dealers.



NAVIGATION BOARD

SCUBAPRO's new Navigation Board makes it much easier to navigate underwater and record important information.

The base of the Navigation Board is a durable, unpolished white plastic slate that fits comfortably in the palm of your hand.



The very popular SCUBAPRO LS-1 Compass is mounted at one end of the Navigation Board. By cupping the Navigation Board in your hand, you can look on the top or side of the compass to set a course.

The bezel around the compass top can be rotated for direction setting. Large direction letters and degree numbers make it easy to read the compass underwater. The compass dial, bezel and direction sight line are all phosphorescent for night use.

A plastic line attaches a pencil to the slate which can be written on both front and back. Courses or messages to your dive buddy can be quickly wiped off by rubbing with a finger.

A nylon strap with a non-corrosive snap hook at both ends facilitates attaching the Navigation Board to your stabilizing jacket D-ring or other equipment.

Ask your local SCUBAPRO Dealer about the new Navigation Board.



WHEN THE GOING GETS TOUGH THE TOUGH GET TECHNICAL.

Some of the toughest environments nature has to offer are the playgrounds of a certain breed of diver. And in these challenging arenas the coldwater enthusiast seeks the technical support he can depend upon — right down to his skin. The most advanced coldwater wetsuit system can now be experienced in the Henderson Semi-Dry. The highest quality 6.5mm neoprene is fashioned into a flexible armor that systematically reduces water entry at all normal entry points— neck, wrist, ankle and torso. A special lumbar pad for spine comfort and a built-in pocket holds companion Eptek Heat Wave™ Diver Heater, an additional value with every Semi-Dry suit purchase. It's not surprising that this technically advanced coldwater garment comes from Henderson. Computer cut for precision. Made in America for quality. And always one step ahead of the pack.



Face seal

Neckdam baffle inside hood

Oversized barrier flap behind inverted zipper

Double Velcro® alligator lock beaver tail

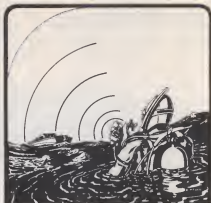
Padded knee guard

Ice cap and Heat Wave™ Heater included in full suit purchase

Depth compensating elastic Velcro® cinch on wrists

Semi-Dry available custom cut for uncommon sizes for men and women. Also jackets and johns available as separates to update your existing suit.

HENDERSON
One Whittall Avenue
Millville, NJ 08332
(609) 825-4771 Fax: (609) 825-6378



Dive-Alert™



- A Surface Signaling Device
- Produces a loud burst of sound that can be heard up to a mile away with the press of a button!
- Quick connect/disconnect fittings allow easy integration with most power inflators and low pressure hoses
- U.S. and foreign patents
- Now available for **A.I.R. 2**

Ask Your Dive Shop for the **Dive-Alert™**

Ideations design inc.
Seattle, Washington

P.O. Box 99575
98199

Trivia Quiz ANSWERS

1. a. Comb jelly fish, or sea gooseberry; one of the Ctenophora
2. Fluid breathing
3. J. Kylstra
4. True
5. About 18 inches
6. b. Leonardo da Vinci
7. $1 = b$; $2 = d$; $3 = a$; $4 = c$
8. Holland
9. True
10. d. A steam engine
11. True
12. $1 = b$; $2 = c$; $3 = a$
13. Saturation diving
14. a. Circulating hot water through the suits.
15. Deck decompression chamber
16. Bikini Atoll
17. True
18. $1 = c$; $2 = a$; $3 = b$; $4 = e$; $5 = d$
19. Mask, swim fins, snorkel and BCDs (buoyancy compensating device)
20. All except d. Fluid breathing. I suspect fluid breathing will never be practical -except for some medical purposes. **\$**

NEW SHOTGUN 2

THE CLOSEST APPROACH TO AN AUTOMATIC SNORKEL

The smooth flowing lines of the purge chamber provide almost effortless purging. This is accomplished by dramatically reducing the water blowing distance by providing outlets at the top tube opening and down through the bottom purge valve. The contour mouthpiece is accurately sized and extra soft. These features make the Shotgun 2 the easiest to clear and most comfortable snorkel ever designed. The hydrodynamic elliptical shape of the upper

barrel reduces water resistance and makes getting hung up on marine objects less likely. Available in 4 colors. Patent No. 4,278,080.

Another design breakthrough is the **Quick Clip Snorkel Retainer** for fast attachment and detachment from your mask. Available at your Scubapro Dealer.

SHAPES OF THE FUTURE.



SCUBAPRO®

3105 East Harcourt Street, Rancho Dominguez, CA 90221 **PROFESSIONAL DIVING EQUIPMENT**

A full-page photograph of a diver in a blue wetsuit and mask, looking down at a large, rusted metal object underwater. The object has a jagged, irregular shape, resembling a piece of wreckage or a large rock covered in rust. The background is dark and murky, suggesting an underwater environment.

Nevis

A Forgotten Gem

BY M. TIMOTHY O'KEEFE

Getting to this small Caribbean island is just hard enough to keep it near perfect.

Just a few years ago, getting to parts of the Caribbean sometimes took longer than flying to Europe. It was one hop after another aboard small airlines whose schedules often contained a cushion of up to 24 hours for departures and arrivals.

Today, traveling to the Caribbean is as easy, and in some cases faster, than commuting within the States. Many islands are non-stop destinations from major U.S. cities. With American Airlines' efficient hub in San Juan, Puerto Rico, many divers now need only change planes there to board a direct flight to the island of their choice. That is except for a few places like Nevis in the Eastern Caribbean.

Nevis is one of a handful of islands left that doesn't have direct flights from the U.S. or Puerto Rico. It is also a place where available dive tanks sometimes outnumber divers four-to-one.

Yet Nevis really is not that difficult to reach. Neighboring St. Kitts, two miles away, has a large airfield from which connections to Nevis can be made aboard LIAT or via the interisland ferry. However, most divers seem to feel that once they get to St. Kitts, they've gone far enough. Few ever bother to make the extra effort to reach Nevis, which started to develop an active tourist industry only in 1980.



In terms of growth, Nevis is decades behind the rest of the Caribbean; a rare gemstone in a sea of costume jewelry. Both underwater and on land, the natural environment of Nevis is much as it was when Columbus first sighted the island in 1493 and called it "Nieves," the Spanish word for snows, because it reminded him of the snow-covered Pyrenees. The view from a plane or dive boat explains why. Nevis (pronounced Nee-vis) emerges from the water in almost a perfect cone shape, and the interior mountain range (which reaches to 3,232 feet) is usually covered in clouds.

From a distance, Nevis can appear moody, almost primeval, and this is more than just a fanciful impression. Nevis has experienced several memora-

ble earthquakes, including one as recent as 1950 that caused considerable damage. But that jolt was insignificant compared to an earthquake and tidal wave in 1660 that destroyed the city of Jamestown, the first capital of Nevis.

Underwater, the terrain seems more settled and varies from low profile reefs to coral grottos and sheer drops to 200 feet. One of the best sites is Monkey Reef, a low-profile reef where the visibility is often as much as a hundred feet and the fish life extensive. Nurse sharks, sting rays and lizard fish are frequently found resting on the bottom, which rarely drops below 50 feet, so dive time there is lengthy and relaxed.

On my first dive at Monkey Reef, we anchored near the sand rift which breaks



Next, we swam across the sand rift to another section of reef densely populated with black bar soldierfish. They hung out in two schools, one under the protection of a coral overhang, the other near the apex of a U-shaped valley cut into the reef. We stayed with the open school until they would begin separating and scattering, then we'd go to the overhang. In a few minutes, the open water school would be reassembled and we returned to it until it began drifting apart again. We then swam up to join a school of curious barracuda which stayed well off the reef and seemed somewhat perturbed to find us in their territory.

My buddy and I were so engrossed in the soldierfish we never caught up with the other divers who were playing with sting rays. Although a low-profile formation—which too often means bland, boring diving—Monkey Reef of-



Alexander Hamilton's birthplace in Charlestown, left, is now both a museum and the government meeting place. Donkey provides a convenient way to get around the hills.

through the reef in a circular fashion. We were hoping to see sand sharks but instead found an extensive forest of purple basket sponges. Leisurely drifting with the current, we followed a line of sponges which gradually increased from smaller amphora-sized animals to huge rounded containers that could have easily held several divers standing shoulder to shoulder.

At the edge of the reef, we spotted a large lobster who obviously had been previously chased. One look at us and it quickly retreated deep inside an overhang, well out of reach.

On the beginning of the second dive, we accompanied a large French angelfish for a hundred yards or more. The fish obviously was not accustomed to being fed because, although curious, it still wanted to maintain a safe distance from us. But it cooperated enough to make a wonderful photo subject, swimming between two of us and patiently enduring a quick series of strobe flashes.

fers so many photogenic spots, it could easily take a full week to investigate completely. But then you would miss the Caves, in 40 feet of water just north of Charlestown, the capital of Nevis. Loaded with fish life, including squirrelfish and barracuda, the caves are big enough for divers to swim through, with open water always just a few feet away. As such, they are far safer than the deep grottos of many other islands which often are the domain of only the most experienced divers.

Other popular Nevis dive sites are Booby Island, a site in the Nevis-St. Kitts channel with plenty of jacks and snappers; the Grid Iron, another channel site where the corals, fans and sponges rise to within 25 feet of the surface; and Redonda Bank, an extensive reef system just beginning to be explored.

Although it covers an area of only 36 square miles, Nevis is blessed with several spectacular beaches and an unusually rich history. Islanders still retain

a close link with their past, and legendary residents like Alexander Hamilton, who was born on Nevis, and Admiral Lord Horatio Nelson, who was married there, are as natural to bring up in conversation as the idyllic weather.

Their beautiful island and rich past still influence the islanders in ways that visitors quickly come to appreciate. Although once common throughout much of the Caribbean, Nevisians still have a friendly civility that is rarely found today.

Nevis first drew public attention in 1607 when Capt. John Smith stopped on his way to Jamestown, Virginia, to establish the first permanent English colony there. Smith noted, "Here we found a great poole, wherein bathing ourselves we found much ease." By 1778, the mineral springs made Nevis famous all over Europe as the Spa of the Caribbean.

The past is alive in present-day Nevis, continuing to live in the historical buildings, ancient sugar plantations and in the antique furnishings still prominently in use throughout the island.

The Alexander Hamilton House, located in Charlestown, was the birthplace of the famed statesman who served as treasury secretary to George Washington and was later killed in the famous duel with his political rival, Aaron Burr. The Georgian-style home was built in 1680, but destroyed by an earthquake in the mid-1800s. Reconstructed, the building contains a first-floor museum with Hamilton memorabilia, historical documents related to the island, and old photos of Nevis. The House of Assembly meets on the second floor. Just a short distance from Charlestown is the Hamilton Estate, one of the last remaining sugar factories on Nevis with all its production machinery still intact.

Nevis also played an important role in the life of famed British Admiral Lord Nelson. St. John's Anglican Church at Fig Tree, an ancient stone building featuring a bell tower, proudly displays the faded marriage certificate that reads, "Horatio Nelson, Esq., to Frances Nisbet, widow, on March 11, 1787" The Duke of Clarence, who became King William IV, stood up for Nelson.

The Nelson Museum is nearby at Morning Star Plantation, where books, pictures and letters of Nelson are on display. Admission is free. The poorly marked Nelson's Spring is the site where Nelson periodically replenished his ships with fresh water; and Nelson's Lookout, a stone fortress situated at 1,850 feet, is one of the best vantage points to overlook Nevis as well as see neighboring St. Kitts, Saba and Montserrat.

The Eden Brown Estate, built around 1740, is said to be the island's haunted ruins. In 1822, a Miss Julia Higgins was preparing to marry a gentleman named



TAKE A LONG CAST OFF A SHORT DOCK.

A bad day of fishing is better than a good day at work.
Did I just make that up, or did I read it somewhere?

Listen to me. I'm talking to myself.

(Is that lure ever going to hit the water? . . .

There. Incredible. I've never been able to cover the water like this before.

Oh! A hit! It's big . . . it's big! Thank goodness for Fightin' Drag II®)

A good day of fishing is better than a great day of anything. And I don't care who hears me.

 **SHIMANO**



Please respect and protect our natural resources.

For a copy of our 1991 Shimano catalog and a Team Shimano Patch, please send \$2.00 to: Shimano American Corp., P.O. Box 19615, One Shimano Drive, Irvine, CA 92713-9615.



There is nothing quite like a magnificent tropical beach at sunrise or sunset. Diver inspects a pillar coral.

Maynard, who on the wedding day had a falling out with his best man. The two killed each other in a duel. One story says the distraught bride became a recluse and the mansion was closed down. Another version says that following the duel she screamed until she died. Residents will tell you that whenever they near the property, they feel the presence of someone—male or female they're not sure—but definitely someone. The property is owned by the government and this is one haunted house that doesn't charge admission.

Considering the way earthquakes

have knocked down so many other things, it's a marvel that the rickety-looking Bath still stands. Located in Charlestown, it is further testimony to the time when Nevis was called the "Queen of the Caribbees" and the rich and famous of the world came here to take of the waters at the Bath Hotel, built in 1778. Remarkably, some springs are icy cold and others steamy hot (108 degrees). It was said that just a few days dipping between the two would cause almost miraculous cures. A fast miracle is what the hotel itself needs. Closed down in the late 19th century, parts of it have been shored up by the government in an attempt to open it to tours. The Spring House where the springs gush forth has been reopened. It costs only 50 cents for a plunge, a pittance compared to what the upper crust Brits once paid.

Many islands boast to the world about their excellent beaches, but hardly anyone has ever heard of Pinney's Beach or the Nisbet Plantation beach, and they are among the best the Caribbean has to offer. The four-mile long Pinney's Beach—which starts at the comfortably old-fashioned Pinney's Beach Hotel and ends at Oulaie Beach—is a narrow strip of sand flanked by a thick forest of magnificent, towering palms. The beach was hard hit by Hurricane Hugo and the stumps of many downed palms still protrude from the sand. However, new growth sprouting through the sand



Travel Tips

GETTING THERE

Continental and American have flights to St. Kitts and Antigua from several American cities. At present, most connecting flights to Nevis require delays of several hours. Air service to Nevis is provided by LIAT, Air Caribe and several other small carriers. LIAT is the only carrier linked to the U.S. computer ticketing system and their schedule is not always the most convenient. Ask your travel agent to check Air Caribe. You could save hours of sitting in a tropical airport. There is ferry service between St. Kitts and Nevis.

WHEN TO GO

September is the rainy month, although showers can occur any time of year in the highlands. Best to avoid the week before the full moon, if possible, since surge and current is sometimes a factor then.

WHERE TO STAY

The Oualie Beach Hotel is the home of Scuba Safaris, run by the friendly and efficient Ellis Chaderton. Scuba Safaris charges \$35 for a single tank, \$60 for two and night dives are \$45. For reservations or more information, call direct: (809) 469-9518.

The modest Oualie Beach Hotel bungalows are one of the island's better values. Rates are \$80 for a single and \$100 for a double in summer, increasing \$15 in winter. The unpretentious restaurant serves excellent local seafood dishes.

Just a short distance away is my personal choice, the Mount Nevis

Hotel, which has a wonderfully scenic view of St. Kitts across the channel. The rooms are spacious and modern, with a VHS player for videos available for rent at the front office. The poolside dining room is superb although some suites do have kitchens. The one disadvantage of the Mount Nevis is that it is off the beach, though it does have a free beach shuttle. However, it is one of the few air conditioned hotels on Nevis, a luxury which many visitors deem essential at certain times of the year. Rates, which include breakfast, are \$120 for a deluxe room in summer, \$170 in winter. A taxi ride to Scuba Safaris is about \$6.

In Charlestown itself is the Pinney's Beach Hotel with its incredible beach. Also air-conditioned, summer rates are \$50 per day for a single, \$60 for a double. A room with breakfast and dinner included is only \$70 for a single, \$100 for a double. Winter rates are almost 50 percent higher for a double, about \$20 more for a single.

Some of the old sugar plantations have been converted to inns. They offer seclusion and charm.

The Nisbet Plantation has its own beach and is convenient to Scuba Safaris. The Nisbet is a deluxe resort offering excellent accommodations, service and meals. Off-season rates start at \$190 per night for two including breakfast and dinner. Contact them at (800) 344-2049.

GETTING AROUND

A rental car is not essential but it only makes sense to have one for a day or two on an island as wonder-

fully diverse as Nevis. Since Nevis is all of 36-square miles in size, it is possible to make a grand tour in a single (long) day. Travel around the island is slower than you might imagine because of all the interesting stops. Skeet's Car Rental and Budget are the two main choices. A local driver's license is \$12. The one disadvantage in driving yourself around Nevis is that many of the mountain roads consist of just two narrow ribbons of concrete, capable of handling a single car at a time, and it's very easy to stray from the straight and narrow and scrape the undercarriage.

DOCUMENTS

Proof of citizenship such as a voter's registration card or birth certificate or passport is required. A driver's license is not sufficient.

CURRENCY

Based on the Eastern Caribbean dollar with the rate of exchange pegged at E.C. 2.65-2.70 for each U.S.\$1. American currency is accepted everywhere. Not all hotels take credit cards but—and this has to be based on quality of the island's clientele—many will take personal checks.

ELECTRICAL CURRENT

Nevis is part of the new Caribbean and so generally uses standard 110 volts, 60 cycle, same as the U.S. Any hotels still on 220 usually have transformers available.

FURTHER INFORMATION

Contact the Nevis Tourist Board at 414 E. 75th St., New York, NY 10021; phone: (212) 535-1234. **\$**

testifies the beach will one day regain its full glory.

In the meantime, it is the new home of the 196-room Four Seasons Hotel, which likely is the beginning of the tourist influx that regrettably will propel Nevis into the 21st century and could forever change the completely unspoiled nature of Pinney's Beach. However, increased tourism was inevitable, and fortunately, a resort of the quality of the Four Seasons, with its 18-hole golf course, is at least in keeping with the island's long-established genteel character.

The Nisbet Plantation beach is only a quarter of a mile long, but until Hugo thinned out its palms, it was one of the most photographed ribbons of sand in the Caribbean. It's still worth a visit, if nothing else to enjoy one of the fabulous burgers at the beach restaurant. The Nisbet Plantation is, of course, where Nelson's bride once lived. The Great House is an excellent restaurant that still retains an 18th century feel with its fine dining room and mahogany bar.

The Hermitage Plantation is a little too far in the mountains to be convenient for most divers, but it is worth a visit to view

the wonderfully eclectic buildings. The great house built in 1740 reputedly is the oldest wooden building in the Caribbean still in regular use. Many of the cottages look like elaborate doll houses but they are built to last. People on Nevis still appreciate the therapeutic qualities of lounging in a hammock, and at Hermitage a hammock is found on every open air veranda.

A civilized island, indeed, famous long ago for its rejuvenating mineral springs, is now becoming known for the equally fine qualities of its underwater environment. **\$**

BY CATHIE CUSH

Tuning in the Digital Dive Network

Illustrations by Tom A. Russell

If there's anything I like better than scuba diving, it's swapping lies about scuba diving.

Like the time on the *Boiler* wreck when I had that 25-pound lobster by the tail and I turned to my buddy. . . . Was it you? No, it was somebody else. . . . Anyway, instead of opening a bug bag, he's waving his arms and pointing off into the distance, and along comes this great white. . . .

So maybe it wasn't a great white, but it was big. And maybe the lobster only looked like a 25-pounder, but even allowing for refraction it was. . . well, at least it was legal. And I could have had it if I really tried.

You catch my drift.

So imagine this: Now I can swap my best dive stories "on-line" with divers from across the country any time of year, any time of the day or night, in the privacy of my own home—in my bathrobe, no less. I know because I've done it. Several times.

Isn't technology wonderful?

I stumbled upon recreational electronic communications almost by accident in the course of working as an intrepid scuba journalist. I bought a gadget called a *modem* to send stories directly

from my computer to my editor's. Because no one has to retype the article, I can work right up to deadline time and my editors hardly get nervous.

I like toys as much as the next diver, so naturally I had to play with this modem contraption. It's just a small plastic box that plugs in between your phone and your personal computer. A row of red lights flashes to remind you that in one phone call you can spend more than you'd pay for a day of diving, but more on that later.

Used with telecommunications software, a modem lets you tap into on-line information services. At least two of these, CompuServe and GENie, have special areas where scuba divers can "meet" and communicate. CompuServe—one of the largest information services, with 600,000 subscribers—has 5,300 members in its Scuba Forum. GENie's Scuba Round Table (RT) has a membership in that same neighborhood, with about 600 members who log on at least once a month.

My telecommunications software package offered a free membership to GENie (the GE Network for Information Exchange). For months I ignored it, convinced that such things were best left to techno-types with horn-rim glasses, plastic pocket liners full of pens and pants that ended well shy of their ankle bones. Then I started seeing ads for GENie's Scuba Round Table. So maybe computers could do more for diving

than figure out remaining no-decompression time.

I logged on.

And I was hooked.

First, I browsed through the Library. The Library contains all sorts of files; graphics of fish and underwater seascapes; text files with reviews of diving destinations around the world, dive equipment and more; and for serious scuba hackers, the source code for a computerized dive log in "C" language. These files are contributed by members, who "upload" them into the system, so that other members can "download," or retrieve, them.

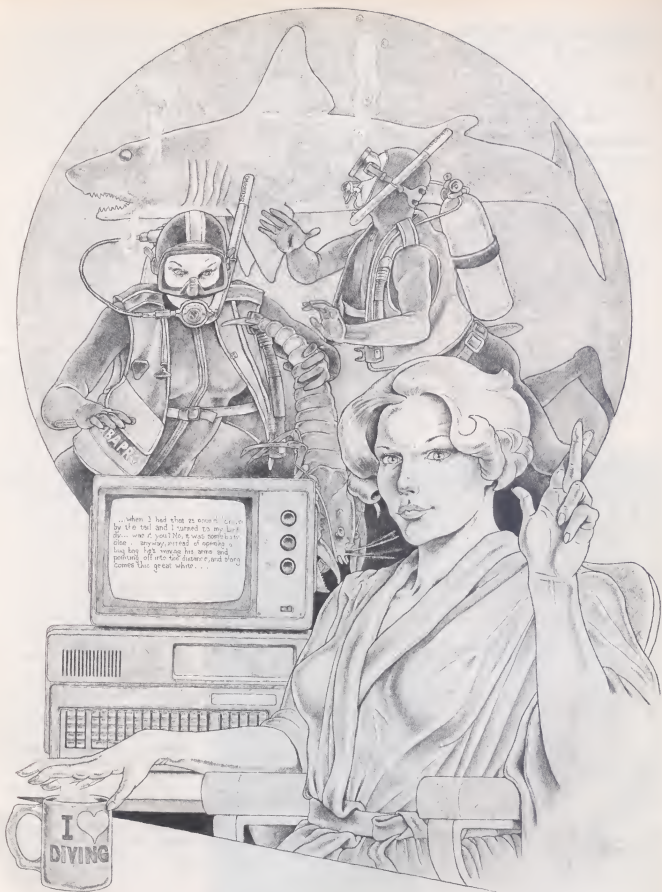
When I had a downloaded floppy disk's worth of info—NAUI classified ads, a chapter or two from the DAN manual and a few other odds and ends—I wandered over to the Bulletin Board, where users leave messages for each other. It's the electronic equivalent of 3x5 cards or Post-It notes. They are organized broadly by category, such as "Diving East of the Mississippi," "Dive Medicine Qs & As" and "Learning to Dive." Within these categories are 20 or 30 more specific topics. A member can start a topic by leaving a message—a statement or a request for information—to which others will respond.

"I need a buddy."

"I want to organize a dive trip to Antarctica."

"Where can I dive when I visit Toledo?"

Cathie Cush is a freelance writer and dive instructor who writes regularly for SCUBAPRO DIVING & SNORKELING. Her electronic mail address is CCUSH@ on GENie and 73777,2452 on CompuServe.



Want to know how the diving was last week where you'll be next week? Your computer may have the answer.

CORAL REEF DIVE & SURF CENTER

Featuring:

- SCUBAPRO Products
- Manufacturer of Infinity Surfboards
- Instruction:
Beginning thru Instructor
- Full Line of Beach Fashions



14161 Beach Blvd.
Westminster, CA 92683
(714) 894-DIVE

LEARN TO SCUBA DIVE



From
Professionals



THE
DIVING
LOCKER

Your Complete Diving Center
Professional • Instruction • Equipment
• Repairs • Travel • Charters • Air

1020 Grand Ave.
San Diego, CA 92109

(619) 272-1120

That sort of thing. These ongoing discussions sometime span months and run into more than 100 messages. I eavesdropped, reading all the messages on diving New York and New Jersey, both topics close to my heart (and my home). I hadn't been in the water much lately, but I could almost taste the salt as I got the scuttlebutt.

Eventually, I got caught.

One day my trusty Macintosh told me I had "electronic mail" waiting. It was a message from DIVEMASTER, alias Tracy Kornfeld, the Scuba RT originator and first system operator (SysOp for short). He had "seen" me browsing and wanted to welcome me aboard, answer any questions I had—typical divemaster stuff. I pulled my bathrobe a little tighter and looked uneasily around my office for a hidden surveillance camera.

I asked DIVEMASTER if I could interview him and a few other key members of the Scuba RT. I prepared my questions and sent them via electronic mail. A few days later I received replies.

DIVEMASTER, a Reebok salesman from New York State who learned to dive at summer camp in Lake George and "was bitten by the scuba-bug that has never left me. I predate SPG's, BC's and aluminum tanks," he said at the ripe old age of 33. He is a divemaster and a

PADI master diver with at least a half a dozen patches on his jacket.

"The idea behind the ScubaRT was inspired by Harold Abbot of ABC Sporting Goods in Ft. Myers, Florida. Harold ran a scuba-related computer bulletin board out of his dive shop, to which I was a frequent caller," Kornfeld wrote, "After a couple of months of \$300+ phone bills to Ft. Myers, I wondered how this idea would work on a national level." He went on line in 1986.

Based on a survey of members, the average user is a certified male diver between 30 and 34 years old, Kornfeld told me. About half of the members live on the East Coast, with a large percentage of the balance living in the Midwest. Most users are basic or advanced open water divers, although a surprisingly high 18 percent of members are not yet certified. I was a little surprised to find out that more than half of the members don't own dive computers.

Kornfeld spends some time on line each day answering queries from floundering folks like me who can't figure out how to get a certain piece of information or who can't remember the command that allows us to quit the system and get back to the real world. His wife provides a similar service to members of the Pet-Net RT, which occasionally has featured marine mammal experts during its real-time conferences.

Kornfeld's right-hand man is Bob Pitcole, known to RTers as THE COUNT, who describes himself as "the senior member of the RT at 47 (slightly older than fire)." A relative newcomer to diving, he's a computer veteran and in real life, he wrote, "I masquerade as a Director of Information Systems for a Detroit-based company with revenues in the billion-dollar range." He also holds a PADI divemaster rating and does 50-plus dives a year "ranging from quarry excursions helping with students to Great Lakes wreck diving to Caribbean lounging to North Carolina to California to the rapid currents of the St. Clair River in Fort Huron, Michigan." He got his nickname, Count Diveula, when he donned a red sash and black cape over his wetsuit while organizing an underwater pumpkin carving contest for a Toledo, Ohio, dive club.

I wondered if he had a plastic pencil holder in his wetsuit pocket.

"Personally, I gave up the plastic pencil holder when I decided engineering wasn't for me during my university days (before the earth cooled)," he replied. And would I consent to be the "entertainment" for the next month's real-time conference?

I admit it. I love an audience as much as the next dive instructor, so naturally this intrepid scuba journalist jumped at the opportunity to be on the answering



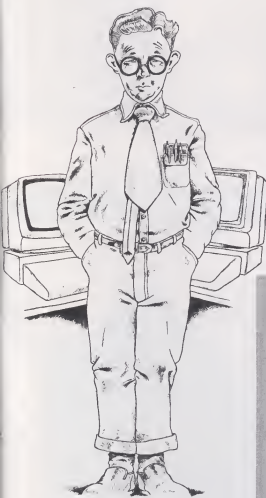
- Featuring all brands of equipment
- Including Scubapro
- Scuba Classes (basic & advanced)
- Custom Wetsuits-Dive Tours
- 3000 PSI Airfills
- Complete Rental-Repair
- & Sales Department

2501 Wilshire Boulevard
Santa Monica, CA 90403

213 828 2916

end of the questions for a change.

The Scuba RT has a live conference at 10 p.m. Eastern Time on the last Monday of the month. It's sort of cross between a conference call and a batch of trucks on CB. Imagine typing a question on your computer and watching the letters of an answer appear on your screen. It's the neatest thing since breathing off a D350.



At a few minutes before 10, (I had considered dressing up, but what the hell!) my modem dialed the local telephone number that links me with GENIE's powerful mainframe. I felt like a student on a first open-water dive. "Is this going to be hard?" I asked myself. "What if I make a typo?"

I have done many more embarrassing things in my diving career, so I took a deep breath and selected Conference Room 3 from the menu. News of my arrival appeared on my screen and about a half a dozen others across the country.

C.CUSH is here.

DIVEMASTER hi cathie

C.CUSH hi tracy

DIVEMASTER bob, how was tobermory?

THE.COUNT great...excellent weather and actually good vis on the Arabia

B.MUNTASSER is here

B.MUNTASSER Anyone been diving lately?

THE.COUNT i was in tobermory this weekend

B.MUNTASSER last weekend I was diving off Cape Cod

E.HECHT1 How was that? I'll be in Nantucket next week and was thinking about diving from the cape of Providentown.

B.MUNTASSER I was taking some measurements on a wreck for the Park Service. It was very nice diving except for the surge.

[GRIGGY] G. SCHWABAUE2 cathie, where would you like to see diving in the future?

C.CUSH Underwater.... Only kidding.

THE.COUNT booooooooooooo

[GRIGGY] G. SCHWABAUE2

hissssssssssssss

DIVEMASTER hehehehe

M.BELOTE I am a little new here and a warm-water type, being from the

south, you have to understand. Anyway, you mentioned bonaire. I plan on going in the spring. Can you tell me a little of what to expect?

C.CUSH If you get a chance, do a dive with Dee Scarr at Touch the Sea.... She's a neat lady and she has some good "secret" dive spots that don't look like much at first, but she'll show you all kinds of critters.

THE.COUNT check our library too... there are entries there on Bonaire.

We talked/typed/communicated for more than an hour, switching from favorite wrecks to equipment set-ups to solo diving to recertification—the usual diver BS. Except for the short delay between typing a question and getting an answer on the screen, it felt a lot like sitting around the dive shop on a windy Saturday afternoon. The real-time conference will never replace standing around the fill station, but it's not a bad substitute if you don't feel like getting out of your bathrobe. The technology may change, but the bottom line is still the same: When we're not underwater, we're talking about it to anyone who will listen. The computer networks just give us a whole new way to do it. **\$**

Getting On-Line

Now, before you go ransoming your dive gear to buy a PC, understand that computer networks aren't going to revolutionize the way we dive—just the way we communicate about it. We'll still have to get wet.

But if you have a home computer, all you need is an inexpensive communications device called a modem (about \$100-\$350) and communications software (\$50-\$200).

To access GENIE, set your modem for half duplex (local echo) at 300, 1200 or 2400 baud. Dial toll-free (800) 638-8369. When you connect, enter HHH. At the U# prompt, enter XJM11811.GENIE, then press RETURN. Have a major credit card or your checking account number ready. You will be given an identification number, a password and a local number to dial when you want to access the system.

For a subscription price of \$4.95 a month, GENIE now offers unlimited access to certain areas, including the Scuba RT, during non-prime time (6 p.m.-8 a.m. Monday through Friday). Non-prime time rates for other products are \$6/hr. and prime time

rates for all GENIE products are \$18/hr. (Prices are slightly higher in Canada.) My GENIE bill averages \$10 a month, and I access a pet forum and a news service in addition to the Scuba RT.

CompuServe access kits are available through most computer dealers and software mail order houses or can be ordered direct by calling (800) 848-8199. CompuServe charges \$12.50 an hour for connect time, plus a communication surcharge, plus a monthly membership support fee of \$1.50. My monthly bill averages about \$5, but I use the system infrequently.

GENIE and CompuServe offer many of the same features—several of which might be of interest to divers. Easysabre provides access to airline, hotel and rental car reservation systems. Both offer forecasting from the National Weather Service. A personal newscasting service can be set up to catch stories on diving, marine mammals, the environment, shipwrecks or any of several keywords a diver might choose. **\$**

BY E.R. CROSS

Nearly 2,000 years ago, when the Roman Empire was falling in ruins and the first great Mesoamerican civilizations were reaching their peak, a young Indian man, named Citku by his people of the Pacific Northwest, completed the strict traditional training to become a diver.

Citku (Makah for dolphin) would now be an honored and vital member of a whaling crew for the Makah coastal settlement known today as Ozette. It was one of the five principle villages of the Makah Indian Nation, on the northern coast of the state of Washington.

Being the diver of a whaling crew was a dangerous job. To insure his survival, and a successful hunt for himself and the crew, Citku had undergone years of physical training and spiritual indoctrination. Now he was ready to face the hazards of the sea and the power of the "Great One," as he had learned to call the whale.

As dawn approached, Citku picked up his cedar box of charms and spirit tokens, stepped out of the plankled storehouse and, naked except for a wide-brimmed, basketry rain hat, walked toward the shore where the whaling and sealing canoes were beached. His uncle, Kawad (killer whale), a renowned whaler and chief of the village, had proclaimed this to be the day the "Great One," seen spouting offshore, could be hunted and successfully captured.

No one knows for sure when the native people of the Pacific Northwest began hunting whales, but some clues have been found. Sometime after 1400, the date of the most recent artifacts found at a site being excavated, a cataclysmic mud slide buried many of the houses of the village of Ozette. In the lower part of the dwellings and in the spaces between, over 50 thousand artifacts, many almost perfectly preserved in the mud, have been recovered by archaeologists working for the Makah Tribe. In a technical report dated in 1968, Dr. Gustafson, one of the Ozette researchers wrote, "The tradition of hunting sea animals, including fur seals,

E.R. Cross is a pioneer in the field of diving. He has been associated with the sport for 55 years. Mr. Cross served as a U.S. Navy diver during World War II and the first two Bikini atomic bomb tests. He later operated the the first commercial diving school and worked for Chevron in Hawaii until retiring in 1985.



The Way It Was



Makah whaler with harpoon and floats. Photo from the Bert Kellogg collection, courtesy of the Makah Cultural and Research Center.

continued with little detectable change for at least 2,000 years." Oral history and whaling lore of the Makah's indicate the crews, equipment and techniques of whaling had also changed but little in those thousands of years.

It seems likely that bands of even earlier people had migrated from the Asian mainland across the Bearing Strait land bridge during the most recent ice age; perhaps 10 to 12 thousand years ago. Some of the tribes followed the coastline, migrating down the coasts of Alaska, British Columbia, Vancouver Island, across the Strait of Juan de Fuca to the Olympic Peninsula and southward. During this lengthy age of dispersion, small groups settled in productive, but geographically isolated areas and subsequently developed separate languages and cultures. The Makahs, the southernmost tribe of the Nootka Indians of Vancouver Island across the strait to the north, are one such isolated group.

The legends, the songs, and the artifacts of the Makah people reveal their long-standing maritime culture. They excelled in many aspects of surviving in a difficult and demanding environment dominated by wind, rain and ocean storms. Their economy was based on the resources of the sea and of the fringing forests. Sea mammal hunting, as well as fishing for halibut and salmon, were their main sources of food. Seals, sea lions and whales were regularly harvested and provided vast amounts of food and other needed products; particularly so the whales.

Among the coast Indians, the Makah's were the most renowned as open-sea whalers. Several species of cetaceans were found off the Ozette whaling camp. The most abundant were the California gray whales. The gray whale, growing up to 45 feet long, appears off the northwest coast of Washington in the spring and again in late fall and winter. These animals are frequently found in shallow water, sometimes even swimming in the surf.

Whaling was a very formal and ceremonial occasion for the Makah. Village chiefs had the inherited privilege, the wealth needed to equip and crew the canoes, and the time for the ritual preparation required to insure a successful whale hunt. A whale hunting party might consist of one or two large whaling canoes with smaller sealing canoes sometimes joining the hunt after the initial catch was made. The Makah whal-

ing canoes were generally 35 to 40 feet in length. Carved from a single cedar log, they were shaped by master canoe builders to glide effortlessly and silently through the water. Each whaling canoe carried a crew of up to eight men including a harpooner, six paddlers (one of whom was the diver) and the steersman. Gear included two harpoons, several sealskin floats, long lines, numerous sealskin floats to mark the whale's position, tools for the diver and a long tow rope. The sealing canoes were small, sleek, fast and silent; barely wide enough for two to three paddlers to fit into the hull.

Whaling crews needed great strength and courage. Exceptional stamina was also needed to paddle back to shore while towing a 20- to 40-ton whale to a landing place at the village. The Makah men met this challenge by a long process of physical conditioning, ritual cleanliness and ceremonial rites that involved communication with their guardian spirits. Strict rules for personal living preceded a whaling expedition. Even the whalers' wives had to conform to certain rules if a whale was to be successfully landed at the village.

The whaling equipment was also special. The harpoons consisted of the harpoon head and the shaft. The harpoon heads, a pair of sharply pointed elk antlers, bone barbs, or mussel shells, were crafted to fit snugly together. During a hunt several heads were carried in each canoe. The harpoon shafts, made of yew wood, were 14 to 18 feet long and tapered at each end. The lines were made of small cedar limbs or spruce roots braided into ropes up to 600 feet long. The ropes were attached to the spear head, not to the heavy spear shaft, and the floats were fastened to these lines. The buoys or floats used to mark the position of the catch and to help tire the animal for final capture, were made from the skins of harbor seals.

There were several phases to a whale hunt. The first phase was to manufacture and prepare the canoe and whaling tools and equipment for the hunt. Secondly, the whalers had to prepare themselves for facing the "Great One," and finally there was the ritualistic disposition of the catch.

Now let us go back in time and observe the diver Citku as he prepares for his part in the hunt.

"While still a young boy I learned that whaling was a grand but difficult under-

taking. The chief of our village, my uncle Kawad, helped me learn the secret rites I would need to know to be a successful diver."

Starting when he was in his early teens, Citku began his preparations. "For four of every 14 days I walked and bathed in many rivers. Then I would stay in my house for 10 days and again walk and bathe in another river for four days. This I did for four years. I did not eat during the walks. In all I bathed in 10 different rivers before I felt purified enough to meet the Great One."

Diver Citku knew that mere humans could not capture such a great animal without supernatural help. "As I walked I sang my songs to the whale spirits telling them how much good the whale would do my people; how much they would be appreciated. I also promised we would deposit their bones back into the sea so the Great Whale Spirit could put new flesh on them." Citku practiced continence during this time. He took icy baths and whipped himself with switches to prepare for the cold and stinging sea spray he knew he would have to endure.

Now his time had come. It was evening and time for the great hunt to begin. The chief of the village came from the woods. He had prayed to the "great chief above" (the sun) asking, "Give me a whale," and to the "underwater chief" asking for help in getting the whale to shore. The villagers had asked their spirits for help. The sealskin floats had been soaked in the creek and were now loaded into the canoes.

There would be two whaling canoes taking part in this hunt. The chief of the village would lead the hunt and make the first strike with his harpoon. As dusk settled, the whaling crews placed their paddles and special tools in the canoes. Just before midnight, the canoes were launched. Diver Citku was in the first seat on the right side behind the harpooner. The canoes headed for the area where the whales were expected to be feeding.

At dawn, they were on station. No whales were sighted that day. The crews waited through the day and next night changing locations for the hunt as indicated through interpretations by the chief of significant signs. The next morning, three hours into the bright, windy day, between the whalers and the shore, a large whale was sighted blowing in the brilliant slash of sunlight

on the water. This was a good omen. The whale would not see the shadow of the whalers as they approached. The chief motioned his crew to paddle rapidly toward the giant animal. The other canoe followed at a short distance.

Approaching the whale on the left side, closer and closer, following the animal's wake as it lobbed shoreward, the whaling crew reached a point almost even with the fin. The harpooner thrust the barbed head of the harpoon deep into the flesh of the whale.

Immediately the crew backed away

from the thrashing animal. The shaft of the harpoon was designed to come loose so it would not strike the whalers. Sealskin floats, attached to the line trailing from the imbedded spearhead, were tossed overboard. In the next few minutes, additional harpoons were stuck into the whale. Soon the beast was slowing and the harpooner could make a final thrust into a vital spot of the animal. The "great one," a large gray, lay still in the water.

It was now time for the diver Citku to test his skill. Grasping a special

chisel-shaped knife made of sharpened mussel shell attached to a strong, club-like shaft, Citku went over the side and dove down to the gaping, violently flopping, mouth of the whale. It was nearly one-fifth the length of the animal and sometimes a fathom or more underwater. As water rushed into and out of the mouth, Citku was sucked nearly into the whale. Holding his breath until near fainting, he repeatedly slashed until he made large cuts through the lower and then the upper jaws. He then swam back to the canoe to get a heavy bark rope. He returned to the front of the whale and, still dodging the closing and opening jaws of the whale, threaded the rope through the holes he had cut. The crew pulled the jaws closed and Citku tied them shut tightly. The tow rope was also attached through the holes Citku had cut and the whale was ready to be towed to shore. Bruised and scraped, Citku climbed back into the canoe. If the whale's great mouth had not been tied shut, it would flop open making towing difficult and also allowing the whale to fill with water and sink.

Other canoes in the area now joined in towing the carcass toward shore. One, a sealing canoe, raced ahead to tell the villagers. At high tide the next day, the whale was brought ashore. And all the villagers joined in pulling the body onto the beach. With great ceremony and humble thanks to the whale spirits, the chief had the catch distributed to the people in accordance with the customs of the village, Citku blackened himself with ash and went to his house to thank his spirits that had made him successful.

The next morning at a special ceremony, the chief cut a deep gouge across the bridge of Citku's nose. He had passed all his tests. He was now a fully qualified diver and accepted member of the whaling crew.

Forgive my levity, spirit of Citku, but you now had your C-card. And THAT'S THE WAY IT WAS 2,000 years ago on Citku's first whaling hunt.

Resources

The Makah Cultural and Research Center, Neah Bay, Washington; Anne M. Renker, Ph.D., Executive Director. Phone: (206) 645-2711. The beautiful Makah Cultural and Research Center is recognized nationally as a model for tribal historical museums. It houses many of the artifacts from Ozette. Also available for study are photos and scientific papers from several sources.

Jefferson County Historical Society Museum, 210 Madison Street, Port Townsend, WA 98368. Patricia J. Warren, Director. Phone (206) 385-4003. Some Curtis photos of the Makah and of whaling scenes.

\$

SANTA CATALINA ISLAND

The Best of
Southern
California
DIVING
Rentals • Boat trips
Tours • Accommodations
Box 126 • Avalon, CA 90704
213-510-0330

Catalina Diver's Supply
A FULL SERVICE DIVE SHOP

**SCUBA
CERTIFICATIONS
-- ALL LEVELS!!!**

**EARN AS YOU LEARN
OPPORTUNITIES
AVAILABLE!!!**

**DIVE THE
CARIBBEAN!!!**

 **St. Thomas USVI
(809)-774-8687**

UNDER SEA T-SHIRT SCREEN PRINTING

AFFORDABLE - 1ST QUALITY - RELIABLE - FAST

- CLUBS • BUSINESS PROMOTIONS • SCHOOLS
- ORGANIZATIONS • PRODUCT PROMOTIONS

HAYNES BEEFY T-SHIRTS ▲ RUSSELL SWEATS

**1 THRU 6 COLOR LINE ART AND
PHOTO QUALITY 4-COLOR PROCESS SPECIALIST**

**SHIRTS FROM CAMERA READY ART
OR HAVE YOUR ARTWORK DEVELOPED**

UNDER SEA INDUSTRIES

(213) 639-7850 FAX (213) 605 0293

**CONTACT: GAYLE CICLE
3105 E. HARCOURT
RANCHO DOMINGUEZ, CA 90221**

UPPER
LIMIT
SETTING

SURFACE
CLUTTER

SCHOOL
OF
FISH

FISH

WRECK

LOWER
LIMIT
SETTING

BOTTOM



THE SONAR FOR DIVERS.

With the Lowrance X-16, you've got a good idea what's down there *before* you go down there.

Lowrance's state-of-the-art sonar technology delivers 1,000 lines of resolution from top to bottom of the paper – for clear images of fish, wrecks, reefs, structure and the bottom. Plus, the variable zoom function lets you zoom in tight on your target for even better underwater vision.

In fact, the X-16 can separate targets as close as 1' apart.

ADD NAVIGATION TO YOUR SONAR SYSTEM.

Lowrance has developed the optional LCI-16 which interfaces the X-16 to many Loran-C navigational instruments allowing you to pinpoint the location of any underwater object (reef, wreck, etc.) and print the coordinates on the X-16 paper printout.

Get the ultimate diver's sonar at your boat and motor dealer.

I want to know more about the Lowrance X-16.

Name

Address

City

State

Mail to:
Lowrance Electronics, Inc.
12000 East Skelly Drive
Tulsa, Oklahoma 74128 USA
DEPT. 249-0032-0291



L'LOWRANCE

Seen' is Believin'

In parts of Alaska and the Pacific Northwest, sea anemones blanket the ocean bottom like a field of wild flowers. White, orange, red, and frilly pink tentacles cap stalk-like bodies, giving anemones a strong resemblance to plants, but these beautiful creatures are, in fact, animals. In general, animals are different from plants because they respond rapidly to touch, and have the ability to move on their own.

Anemones have some surprising capabilities that place them indisputably on the animal side of the fence.

Although they appear rooted in the bottom like a plant, anemones stand on

a contractible base called a pedal disc. They slide along on their pedal discs when they move, but they appear stationary if you only give them a quick glance. A fast anemone in full sprint can cover about one foot per hour. Most anemones move only an inch, or less, per hour. Anemone races are not likely to draw crowds. Not all anemones move by sliding on their pedal discs. Several species have methods of locomotion that are unexpectedly novel.

One anemone, for instance, is commonly called the swimming anemone. When a predator threatens this animal, it will release its grip on the bottom and "swim" away by contracting first one side of its body wall, then the other. This wriggling stroke won't win any Olympic events, but it is effective enough for survival.

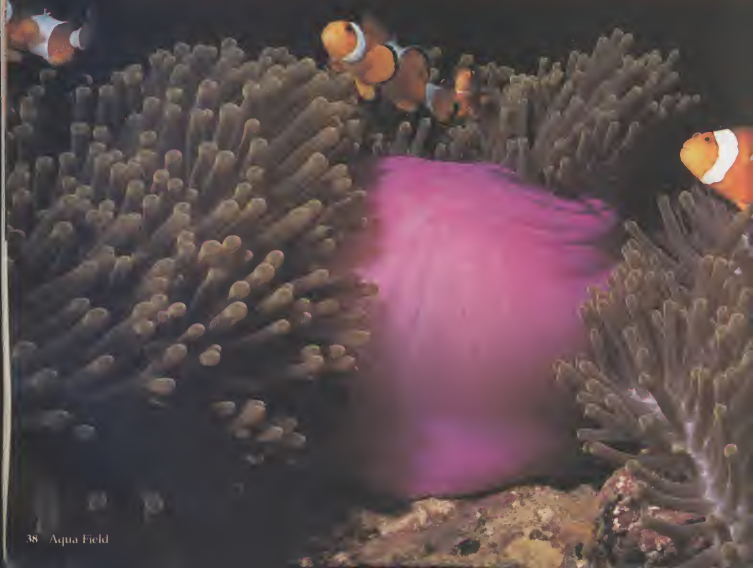
The tricolor anemone travels in style by limousine. The limo driver is a star-

eyed hermit crab, and the limo is the hermit crab's shell. The crab taps on the base of the anemone, which then releases its foothold. Both animals help to maneuver the anemone atop the shell, and they're off for a long ride together. The crab is protected by the stinging tentacles of the anemone, and the anemone gets a free ride to new food sources.

The other end of the anemone from the pedal disc is called the oral disc. This is the business end, where the tentacles surround the mouth. The rapid response to touch needed for inclusion in the animal kingdom is provided by the tentacles. These flexible arms are used to catch food, which may vary from small fish and crabs to microscopic plankton. The anemones with smaller numbers of larger tentacles tend to eat larger prey, while the anemones with many slender tentacles feed on plank-

William J. Harrigan managed the Key Largo National Marine Sanctuary from 1984 until 1987. He currently is working on a graduate program in coastal marine management at the University of Rhode Island.

Anemones



ton. The tentacles contain special stinging cells called nematocysts, which paralyze and hold the prey. Nematocysts contain tiny, spring loaded, poison tipped spears, which extend on contact. The tentacles quickly contract when a prey is caught, bringing it to the mouth.

Variety is the best word to describe anemone reproduction. Individual anemones can be male, female, or both. In one fascinating example of sexual reproduction you may occasionally see fully grown anemones wearing a belt of miniature anemones. This is called brooding, and it occurs in anemones which raise their own fertilized eggs. Anemones may also reproduce asexually by literally splitting in two. A crease forms up and down the body wall, and gradually deepens until the anemone is split into two complete animals. In another method of asexual reproduction, the anemone sheds the central

portion of the pedal disc when it moves. This cast off tissue then develops into a new anemone.

Several species of anemones have evolved special relationships with other animals, aside from procuring limousine service. The clownfish that inhabits the tentacles of some anemones is a well-known example. The fish is protected by the tentacles from predators who are unable to avoid the deadly nematocysts, and the anemone eats the prey attracted by the clownfish. Shrimp participate in similar relationships with anemones.

Sponges are often hosts to anemones growing on their exteriors. The sponges lose some important surface areas for filter feeding, but gain in protection from sponge-eating fish, such as angelfish, to which the anemones are poisonous.

Colonial anemones live in a special relationship with each other, connected by a rootlike structure. A common encrust-

ing colonial anemone, *Palythoa caribaeorum*, can be seen in the shallow portions of coral reefs, where it is often mistaken for coral. These anemones form a pale yellow or tan mat over portions of dead coral, and compete with the coral for space and food.

Anemones are easy to find in Puget Sound and Alaska, and in warmer areas like Thailand, where there are plenty of hard bottom habitats. On coral reefs and other areas where the competition for space is high and predation is fierce, anemones tend to be hidden in the crevices, so you will have to keep a sharp eye out to find them. It helps sometimes to mentally adjust the scale of your whole dive. Creatures like the anemone will be easier to locate if you focus your awareness in a smaller area than normal. Once you find them, patient observation will bring you guaranteed fascination. **S**

Life in the Slow Lane

Although they'll
never beat a tortoise,
anemones do, in fact,
move about.



BY BILL HARRIGAN

A vibrant underwater scene featuring several tropical fish, including a prominent blue and white striped surgeonfish in the center, swimming near a yellow and red artificial object. The background is a deep blue with other smaller fish visible.

At Home in the Caribbean

Convenient, charming, excellent diving, and Old Glory make the U.S. Virgin Islands a popular destination.

BY M. TIMOTHY O'KEEFE

The Virgin Islands have always been among my favorite places to dive, offering very diverse marine life and excellent photo opportunities.

Those assets still remain, even following 1989's hurricane Hugo, although apparently some divers are still skeptical.

St. Thomas suffered quite a blow above the waterline with wind gusts of up to 260 mph, however, the marine life fared considerably better. According to Rhonda Allen of Aqua Action Water Sports, most of the island's land damage was caused by tornadoes, not the hurricane winds.



In assessing the overall damage, Rhonda said returning divers will see evidence of Hugo at two places in particular: Little St. James where some of the pillar corals were toppled, and the wreck of the 190-foot freighter *Cartanser*, now in three pieces instead of two. But the *Cartanser's* yellowtail snapper colony which has always been happy to greet divers is still in residence. Beyond that, Rhonda said divers will note few other ill effects.

Perhaps I'm so fond of St. Thomas because it was one of my first ventures into the Caribbean many years ago. I found it an ideal "foreign" location for someone making his first trip out of the country.

It still is today. St. Thomas has plenty of direct flights from many parts of the mainland, while St. Croix has convenient connections through Puerto Rico, particularly aboard American Airlines. In general, that means no changing planes in a multitude of airports in a marathon effort to reach your destination—luggage intact—in a travel day that may stretch out for eight to 10 hours.

Once there, you face no long immigration lines to further test your patience and endurance since St. Thomas is part of the United States Virgin Islands. Stepping off the plane is like landing in Poughkeepsie except that it's a lot warmer and you can be certain the diving will be superb. It doesn't hurt, too, that the people all speak English and the boats are all Coast Guard certified.

If you have a non-diving traveling companion, he or she will have plenty of opportunity to shop until they drop in what is probably the Caribbean's best duty free area. As an added enticement, U.S. Customs regulations have been relaxed and now allow you to take home \$1,200 (up from \$800) worth of merchandise duty free.

Most importantly, if you are traveling with a non-diver who is interested in seeing what the sport is all about but is not yet committed to getting certified, St. Thomas is ideal as resort courses virtually originated here. After just a few hours of pool training, your partner will be ready to join you on a shallow reef dive.

For an extra nudge, take them to St. Thomas' Coral World attraction located next to the Stouffer Hotel. The three-level dome tower is actually an underwater observatory and marine park. The lower level provides a look at the real ocean outside, while the second level is filled mostly with aquarium tanks for a close-up look of colorful fish and other creatures. Before 11 a.m. each day, divers enter a large circular tank to feed barracudas, sharks and morays. You may want to miss that if your potential dive buddy might be put off by the ravenous dining habits of the tank's inhabitants.

Located 1,500 miles southeast of New

York and 1,100 miles southeast of Miami, the USVI were discovered by Columbus on his second voyage in 1493. For most of their history, the islands were owned by Denmark, until the U.S. purchased them for \$25 million in gold in 1917 to help protect the Panama Canal during World War I.

St. Thomas

Although St. Croix is the largest of the group, St. Thomas is the capital and by far the most developed and visited. Charlotte Amalie's fantasy-looking harbor (white and pastel houses are bright beacons against the rich green hills) is the No. 1 cruise port in the entire Caribbean.

St. Thomas is an island of contrasts. The harbor area is like any large American city with its attendant traffic and hustle and bustle. But up in the hills, a more tranquil pace prevails. You can even find cattle grazing in emerald fields in a countryside that reminds many travelers of France. In fact, just outside the busy downtown is a place called Frenchtown.

St. Thomas has eight outstanding beaches, most are ideal for snorkeling as well as sunning. Heart-shaped Mogens Bay was named as one of the world's 10 most beautiful beaches by *National Geographic* magazine.

Coki Beach not only offers some of the prettiest views on the island, its normally calm waters have long been a natural swimming pool for teaching resort courses. In fact, this is where many of the cruise ship novices take their first plunge in water that varies from 12 to 18 feet deep.

For experienced divers, St. Thomas has some very exciting sites. Frenchman's Cap, a mile south of St. Thomas, received its name from the large rock that looks like Napoleon's three-cornered hat. Good visibility usually prevails, ranging from 75 to 100 feet. Marine life can be excellent. Often you'll be able to find nurse sharks sleeping on the sand bottom and schools of big pelagics. Grouper, rays, turtles and snapper are typical residents. In February and March, it's possible to hear humpback whales in the area. On occasion, a few divers have even been fortunate enough to swim here with the magnificent creatures.

Two protruding rocks just a half-mile out known as Cow and Calf are named after a pair of humpbacks spotted there many years ago. The larger rock, Cow, is peppered with incredibly lined tunnels and arches, a submarine wallpaper of bright sponges and small corals. One tunnel, known as Champagne Cork, because of the way the surge pops you through the bottlenecked opening, is often filled with silver minnows. This

can be a terrific location for a night dive.

At Thatch Cay just off Coki Beach, tarpon and turtles are frequently sighted near the maze of tunnels and ledges that cut through the island. Copper sweepers and orange corals furnish an unforgettable panorama inside some of the stone corridors. However, there can be a strong cross-current here at times which may make diving difficult, if not impossible.

East of Thatch Cay is a chain of islands—Grass, Mingo, Congo and Lovango Cays and Carval Rock—that offers more good diving. The sand chute between Congo and Lovango has been dubbed *The Yellow Brick Road* because all the exciting possibilities it offers, like big rays in the sand, abundant sand dollars and sea biscuits, and eagle rays. Carval Rock, often beset by strong currents, attracts tremendous schools of fry, which in turn attract big fish like dolphin and tarpon. You can also find a good forest of elkhorn coral here.

Little Buck Island, excellent for both snorkeling and diving, was once used by astronauts training to feel the sensation of weightlessness. The wreck of the *Cartanser* is located here. Other wrecks around St. Thomas include the *HMS Packet* which ran aground at Packet Rock and the *Major General Rogers*, on the bottom at 70 feet and another popular night dive.

St. John

Just a 20-minute ferry ride from St. Thomas is St. John, an island almost the size of St. Thomas but without any of its big-city ways. Most of St. John is a national park, and consequently most of the waters surrounding it are well protected. Cruz Bay, the main town, is a tiny backwater village compared to thriving Charlotte Amalie, but for those who like to feel they're in the uncrowded Caribbean, St. John is the place to be.

Like St. Thomas, St. John has some spectacular beaches. The best known is at Trunk Bay, whose underwater snorkeling trail with its red, white and blue markers isn't as well known (or crowded) as the Buck Island trail at St. Croix. Although far fewer people visit St. John, the island still supports four scuba operators, a testimony to the quality of the diving.

St. John is well worth a visit for the island views even if you never intend to dive. You'll find several excellent beaches, particularly at Maho Bay, and some interesting old sugar mill ruins at the Annaberg Plantation built in the 1780s. The National Park Service, in charge of most of the island, conducts guided shore walks on the shallow flats in front of the plantation every Monday afternoon at 2 p.m. Simply show up to join the outing.

For diving, St. John operators use



some of the same locations as their St. Thomas counterparts. Lameshur Bay was the base for the pioneering Tektite underwater habitats positioned in 50 feet of water. Clear water and abundant marine life are what made this an ideal location for the experiments.

Steven's Cay just outside Cruz Bay is noted for its lobsters, nurse sharks and pillar coral. A coral amphitheater forms a kind of fish bowl as well as a protected place to dive when the current is running.

Dever's Canyon, in just 50 feet of water, also boasts its share of nurse sharks and lobsters hiding under the colorful overhangs. In more open water, look for the resident puffer fish and the goodly assortment of sponges.

Since St. Thomas and St. John are such close neighbors, it's convenient to escape from one to the other to experience the vastly different lifestyles each offers. That, coupled with the shared superb diving, is a unique feature to make this already alluring region all the more attractive.

Diver checks out the wreck of the Rosa Maira off St. Croix. The windmill is at the Whim Plantation sugar mill on St. Croix.



St. Croix

The largest of the U.S. Virgins, St. Croix covers a total of 82.2 square miles (compared to St. Thomas' 28 square miles and St. John's 20 square miles.) It is separated into two distinct regions marked by the cities of Christiansted and Frederiksted.

Most of the hotels and dive operations are located in Christiansted, larger of the two cities. The Danish influence is still quite pronounced there, particularly at Fort Christiansvaern painted a bright yellow, a color the Danes seemed to en-

joy. Begun in 1738, it was partially destroyed by a hurricane and then rebuilt in 1837. The fort is restored to its 1830s period and contains an exhibit on local military history.

The prominent, nearby Steeple Building, was built as a Lutheran Church by the Danes in 1735. Now restored, it is a National Park Museum with archeological, black history and architectural exhibits.

Government House is located just a few blocks farther down King Street.

Travel Tips

GETTING THERE

American and Pan Am have direct flights from many parts of the U.S. to St. Thomas and St. Croix; St. John does not have an airport. Midway flies direct from Chicago. Delta flies to San Juan where you can connect with the other carriers. On the basis of personal experience, I recommend flying one of the major carriers into St. Thomas or St. Croix directly. Avoid the small island commuters whenever possible, as I have found them unreliable operations for the most part. They often don't leave on time and your chances of finding your luggage at your destination are not good.

ACCOMMODATIONS

The USVI have more hotels per square inch of land space than anywhere else in the Caribbean. Most dive operators have special package plans with various hotels, and these typically offer the best value. Some of the better resorts to try and tie in with on St. Thomas are Frenchman's Reef, Sapphire Beach Resort, Point Pleasant Resort and the Stouffer Grand Beach. For something smaller, try Blackbeard's Castle, actually a small 16-room inn high on a hill overlooking Charlotte Amalie; but it is well away from a beach or a dive operator.

On St. John, try the beautiful Hyatt Regency Virgin Grand. To

me, the highly touted Caneel Bay resort is pretty shaggy looking these days; further, it lacks air conditioning. The grounds are far more impressive than the rooms.

On St. Croix, the Buccaneer Hotel just east of Christiansted and the Carambola Beach Resort and Golf Club on Davis Bay are generally considered the best. Buccaneer arranges dives through an outside operator, Dive Experience, while Carambola has its own. Carambola, however, is for those seeking total seclusion since it is about 30 minutes from Christiansted. The hotel shuttle runs several times daily; a taxi ride is \$20 one-way. In Christiansted situated right on the waterfront or just a few steps away are the Caravalle Hotel, Anchor Inn, Club Comanche and King's Alley, all of which cater to divers.

GETTING AROUND

Taxis and rental cars are available

Fort Frederik, site of the emancipation of slaves in 1848. For this reason, the town today is still sometimes called "Freedom City" by locals.

However, with the freeing of the slaves, owners of the big sugar plantations began abandoning their estates, and the island's population dwindled and the economy went into a severe slump. Just how important sugar was to the economy is clear. The island is dotted with the ruins and restorations of over 100 old sugar mills and great houses.

The finest surviving plantation museum is the Whim Estate just west of Frederiksted. The oval-shaped, high-ceilinged, great house has been carefully restored and is furnished with period furnishings throughout. It even has a

everywhere. In exploring St. Thomas, it's probably a good idea to take a taxi tour first to get a feel for the island. Road signs are almost non-existent and traveling on your own can be confusing. St. John, on the other hand, is quite easy to explore. St. Croix needs more road signs. Because things are so spread out on St. Croix, a rental car is the only way to move around the island. The taxi fares will eat you alive. But, if you are diving a rental car, even though you're in the U.S. Virgin Islands, all driving is on the left. It's a carryover from the Danish days.

DOCUMENTS

Some proof of citizenship is necessary (voter's card, birth certificate or passport). Although this is an unincorporated territory and all residents are citizens of the U.S., you'll need to clear customs upon departure. Keep that in mind when budgeting time for your return to

small moat around the base, used not for defense but for helping cool the air. The Whim Estate has the island's most photogenic windmill, complete with giant white blades.

Buck Island Reef National Monument two miles north of St. Croix is probably the most visited and best known snorkeling/diving site anywhere in the Virgin Islands. Under the protection of the Park Service since 1961, it is visited many times daily by excursion boats from Christiansted.

Underwater markers in the shape of grave headstones mark Buck Island's famed underwater park, which is suffering from both its popularity and the effects of Hugo. The shallowest corals show obvious signs of damage and some were even uprooted, but the schools of



Looking over the harbor at Charlotte Amalie on St. Thomas.

the airport. When several flights are departing at the same time, customs can get very backed up.

ELECTRICAL CURRENT

Same as at home, 110 volts, 60 cycle.

ATTIRE

Swimsuits and bikinis are fine for the beach, but are prohibited in downtown Charlotte Amalie. They're also frowned on in St. Croix.

GETTING MARRIED

A good number of couples get married here every year. Write for a marriage license application to Territorial Court of the Virgin Islands, Box 70, St. Thomas, USVI 00801; (809) 774-7325. There's an eight-day waiting period following the return receipt of the notarized application in St. Thomas.

MORE INFORMATION

U.S. Virgin Islands Division of Tourism, 1270 Avenue of the Americas, New York, NY 10020; phone: (212) 582-4520.

DIVE OPERATORS

ST. THOMAS

Aqua Action Dive Center
Box #6, Red Hook, 00802;
Phone: (809) 775-6285.

Caribbean Divers
Red Hook
St. Thomas 00802
Phone: (809) 775-6384.

Chris Sawyer Dive Center
Compass Point Marina
St. Thomas 00802
Phone: (809) 775-7320.

Dive In!
Sapphire Beach Marina
St. Thomas 00803
Phone: (800) 524-2090.

Joe Voegel Diving Co.,
West Indies Inn
Frenchtown, Box 7322
St. Thomas 00801
Phone: (809) 775-7610

Ocean Quest Divers
Box 3184
St. Thomas 00803
Phone: (800) 524-2031

St. Thomas Diving Club
Bolongo Bay
St. Thomas 00802
Phone: (809) 775-1800

Underwater Safaris Inc.,
Ramada Yacht Haven
St. Thomas 00801
Phone: (809) 774-1350.

Virgin Islands Diving Schools Inc.,
Box 9707
St. Thomas 00801
Phone: (809) 774-8687.

ST. JOHN

Cinnamon Bay Watersports
Cinnamon Bay
St. John 00830
Phone: (809) 776-6458.

Cruz Bay Watersports
Box 252, Cruz Bay
St. John 00831
Phone: (809) 776-6234.

Low Key Watersports
Box 431

Wharfside, St. John 00831
Phone: (809) 776-7048.

Paradise Watersports
Caneel Bay,
St. John 00830
Phone: (809) 776-7618.
St. John Watersports
Mongoose Junction
St. John 00831
Phone: (809) 776-6256.

ST. CROIX

Blue Paradise Scuba
Carambola Beach Resort
Box 3031

Kingshill, St. Croix 00850
Phone: (809) 778-3598.

Cane Bay Dive Shop
Cane Bay
St. Croix 00820
Phone: (809) 773-9913.

Cruzan Divers
#12 Strand St.
Frederiksted, St. Croix 00840
Phone: (800) 247-8186.

Dive Experience
1 Strand St.
Christiansted, St. Croix 00820
Phone: (800) 235-9047.

Mile Mark Watersports
59 King's Wharf
Christiansted, St. Croix 00820
Phone: (809) 773-2628.

Underwater St. Croix
Green Cay Marina
Box 3608
Christiansted, St. Croix 00822
Phone: (809) 778-7350

V.I. Divers Ltd.
Pan Am Pavilion
Christiansted, St. Croix 00820
Phone: (800) 544-5911.



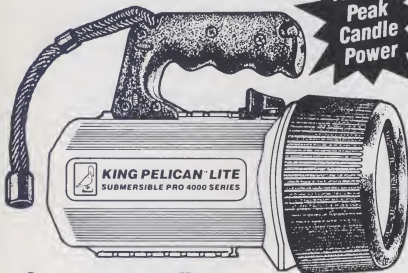
King Pelican Lite™

Unbreakable and

SUBMERSIBLE

**Watertight the King Pelican Lite
produces an amazing**

**100,000
Peak
Candle
Power**



3 Position Handle

- **Patented Dual Filament Xenon Lamp**
- **Interchangeable Adjustable Focus Spot and Flood Reflectors.**

- **Patented Internal Shock Absorbing System**

12 Volt, 14 Watt-4 lbs. 10 oz. w/Batteries.

9" L x 4 1/2" Dia.

Choice of Laser Spot™ or Modified Flood,
quick change reflectors.

CAT. #4000. Uses 8 D-Cell Batteries

Lifetime Guarantee. Made in the U.S.A.

PELICAN PRODUCTS

2255 Jefferson St., Torrance, CA 90501
(213) 328-9910



fish happily remain.

Christiansted-based divers have virtually the entire northeast coast as their playground, with reefs and steep drop-offs bordering the entire shoreline. As a result, there are scores of dive sites and the new ones are being found all the time. In addition, several wrecks have been deliberately sunk to add variety.

Lots of tropicals frequent the Salt River Canyon East Slope, which also enjoys good sponge growth. The drop-off begins at either 40 feet and plummets to just under 1,000 feet, 6,000 feet or 12,000 feet, depending on who you listen to. Personally, I always enjoy hearing such widely varying estimates because the emphasis on depth somehow implies that the steeper and deeper the drop, the better the diving, which isn't necessarily true; and it's not likely any of us are ever going to see the bottom.

The West Slope of Salt River Canyon offers black coral as shallow as 80 feet and deepwater gorgonians are common. The Salt River area also happens to be a very historic region, where Columbus came ashore for fresh water in 1493 and named the island Santa Cruz or Holy Island. As an aside, it was after stopping here and viewing the hilly terrain of the other islands that Columbus decided to call them the Virgin Islands. While sailing among the lush, rounded and finely sculpted hillsides, Columbus apparently was reminded of the ancient legend of St. Ursula who along with 11,000 virgins was raped and killed after her own extended sea voyage that ended so tragically in Germany. Columbus' choice of names has long puzzled some historians who cannot interpret the logic of it—historians who obviously have never spent prolonged, monastic periods at sea. It should be remembered these are the same voyagers who mistook manatees for mermaids, which would indicate these sailors' thoughts were not always as saintly as the school textbooks would have us believe.

Moving more westward, the walls at Cane and Davis Bay come in so close they can be dived from shore. In fact, many residents dive Cane Bay from the beach. I made a dive at Davis Bay with Blue Paradise Scuba at the Carambola Beach Resort and Golf Club. We swam out 150 yards with our BC's inflated, which gave us a fine view of Carambola's very picturesque beach.

Davis Bay is an exceptional dive, with numerous coral canyons leading to the drop-off starting at about 40 feet. Although Hurricane Hugo damaged the reefs many new colorful corals are returning and the variety of fish provided some interesting photo opportunities.

Mile Marker Watersports and Dive St. Croix (a combined operation located in the King Christian Hotel complex)

showed me several very photogenic wrecks on their weekly Sunday run to far-flung Butler Bay, actually quite close to Christiansted.

At 103 feet down on the 177-foot long *Rosaomaina*, one of the divemasters emptied an air tank into a large air pocket at the vessel's stern near the prop. One by one we came up, took our regulators out and discovered how difficult it is to be macho at 103 feet when your voice sounds like Donald Duck.

The interior of the wheelhouse has some good encrusting sponge growth that is evident only under a light. It's also possible to penetrate a small way into the wreck, including a head still with toilet and a galley with all its crockery and a floating egg carton. However, it's very easy to silt up the in-

The tugboat wreck off St. Croix



side and divers must crawl ahead with the hands and not use their fins.

The *Northwind* is a 75-foot ocean tug used as a film prop. The colorful, sponge-encrusted anchor provides excellent photo opportunities, as does the wheelhouse. Sharks and southern sting rays are often spotted here. An old underwater habitat is just a short swim from the *Northwind*, and many divers start there and finish at the tug, where the boat is anchored.

I did not see the *Suffolk Maid*, a 144-foot steel hulled North Sea trawler that sits upright in 60 feet of water. However, the superstructure was removed from the *Suffolk Maid* before it was scuttled, so resident and passing schools of fish are the main interest.

Also located in Christiansted is V.I.

Divers. A PADI 5-star center, V.I. Divers is an authorized SCUBAPRO dealer. Their 35-foot dive boat easily covers all of St. Croix's dive sites. Located on the waterfront at the Caravell Hotel, V.I. Divers can be reached at (800) 544-5911.

The old Frederiksted pier rivals or surpasses the Old Town pier in Bonaire for macro photography. However, all of the old pier is underwater, the section closest to the surface having been removed by Hugo. Besides eels, puffers and octopus, the marine life on the pilings still includes those legendary sea horses that Frederiksted has been long famous for. The pier is a superb night dive. Cruzan Divers, located in Frederiksted right on the waterfront, dives the pier often and also frequently visits the wrecks in Butler Bay. **\$**



TRUST THE BEST

Professional

- Instruction
- Equipment
- Repairs
- Travel
- Charters
- Air

Divers Den, Inc.
 8105 Harford Road
 Baltimore, MD 21234
 (301) 668-6866

Discover the Best Words in Diving

DISCOVER DIVING

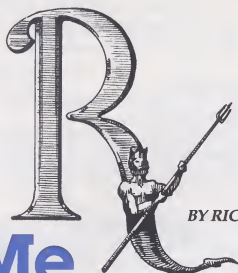
The Diver's Journal

Subscribe Today!

**SAVE 47% off the Cover Price for a
Two Year Subscription or SAVE 35%
on a One Year Subscription**

One year \$11.50 or \$19.00 for two years.
 Foreign subscription rate: One year \$29.50
 or \$39.00 for two years.
 Back Issues are available for \$3.50 each.

To start your subscription today,
 call or write Watersport Publishing,
 P.O. Box 83727, San Diego, CA 92188
 Telephone (619) 697-0703



BY RICHARD E. EASTON, M.D.

Call Me in the Morning

Today we are going to talk about stool pigeons and how to avoid being one on your next dive trip. Admittedly, the prospect of emulating this bird in any way is an unsavory topic. I am going to tackle the material anyway and hope I can enlighten you on two counts.:

1. What to do if suffering an attack of diarrhea; and,
2. How to end the attack as quickly as possible.

The topic of bowel function of any sort, including a problem like Traveler's Diarrhea (TD), which can unquestionably wreck a dive trip, may be offensive to many readers. In an attempt to protect the sensibilities of their readers, many writers gloss over the issue. They end up being so superficial that the subject is reduced to "take some Pepto-Bismol® and hope for the best." I am not going to be superficial. I am going to concentrate on details about TD from a different point of view to solidify the problem and firm up its solutions for you.

There are three things about which

you need to have a very clear picture:

1. The definition of diarrhea itself and the two main divisions of TD—Mild TD and Severe TD;
2. The two major approaches to therapy, the advantages and disadvantages of each; and,
3. The definition of a Therapeutic Failure in the treatment of TD and why it is important to recognize when medicine isn't working.

The "D" in TD is defined as three or more unformed, soft, watery stools per 24 hours accompanied by abdominal cramps, nausea and vomiting. To qualify as TD, the frequency of stools per day must go up to two to three times the normal number AND the associated symptoms should be present continuously over a 12- to 24-hour period. One buzzard returning to Hinkley, Ohio, doesn't mean spring is verifiably here. Similarly, one loose stool, one abdominal cramp or one little bit of nausea by itself isn't enough to diagnose a case of TD. However, taken together this group of signs and symptoms will let you know you have a problem.

Mild TD vs. Severe TD

It is crucial to differentiate between Mild TD and Severe TD. You can carry medication to treat Mild TD yourself without undue risk. However, to treat Mild TD reasonably you must know when it isn't "mild" any more. You must know when

it has evolved to "severe" status and, because it has, you need professional medical help (e.g., a visit to a physician, plus laboratory work and possibly different medications).

Mild TD is defined as three to four unformed, soft, watery stools per 24 hours with mild abdominal cramps, slight or vague nausea, no vomiting and a normal body temperature (98.6 degrees F or 37 degrees C).

Severe TD is defined as five or more unformed, soft, watery stools per 24 hours with moderate to severe abdominal cramps, intense nausea and vomiting, an elevated body temperature, pink-tinted mucus in the stools or frankly bloody stools.

To summarize, the major points of difference between Mild and Severe TD are: (a) increased severity of symptoms; (b) fever; and (c) bloody stools. The medications mentioned below will routinely work fine for Mild TD, but Severe TD requires recognition, cessation of self-medication and professional medical consultation.

Treatment

OK, now that I have covered the bad stuff, how about some good stuff? There are two ways to approach treatment of TD:

1. A combined blast of anti-motility drugs and antibiotics; and,
2. A "Two-Step" (no pun intended) approach. In either case, these techniques

Richard Easton, M.D. is a graduate of the University of Kansas Medical School and the Harvard University School of Public Health. He is presently collaborating with his wife Fran, a Doctor of Psychology on a book tentatively titled, Diving Secrets: Essential Keys to Diving Fun and Safety.

apply only to Mild TD, not Severe TD.

The "Two-Step" approach suggests using the anti-motility drug loperamide (Imodium®) first and waiting to see if it will work without adding antibiotics. If the TD quiets down or resolves, so the theory goes, then antibiotics can be avoided. If symptoms do not resolve or if they get worse, then antibiotics are added after two to four days of loperamide alone. The problem with loperamide by itself is that the TD may "slow down," but not go away completely, continuing unchecked for the remainder of your dive trip (or on the plane home or after you get home). I don't know about you, but my patients are NOT looking for a treatment that will work after one or two weeks. They are looking for relief immediately, if not sooner.

Therefore, the preferred method of treating Mild TD is with a combination of antibiotic and anti-motility drugs simultaneously. A recent study¹ has shown that the two drug combination of sulfamethoxazole-trimethoprim (SMZ/TMP) (Bactrim-DS®, Septra-DS®) added to loperamide (Imodium®) works better and faster together than either SMZ/TMP or Imodium alone.

This synergism is like adding one and one and getting six. One drug with one effect (SMZ/TMP), plus one more drug with an additional effect (Imodium) and,

instead of getting results that are twice as powerful, you get results that are *six times faster* than either drug alone.

Now, I'm not too familiar with the New York Theater, but I am aware that it is unlike Mild TD. Broadway producers want to back the longest running show they can find. Doctors treating TD, Mild or otherwise, want the show to close after one performance, and we hope it will be listed by the Guinness Book as The Shortest Performance On Record! That is just what we get with combination therapy: a very short run. The average time in the JAMA study between starting medication for Mild TD and passage of the last loose stool was 4.5 hours. That means, with good luck and no complications, you could be symptom-free and diving in a short time.

The winning combination is SMZ/TMP (one tablet, 800 mg SMZ/160 mg TMP, every 12 hours for six doses) plus Imodium (two 2 mg tablets to start and one after each loose stool, not to exceed eight tablets per 24 hours. The SMZ/TMP should be taken with a full eight-ounce glass of water on an empty stomach (one hour before or two hours after morning and evening meals).

In addition, constant fluid replacement during the day (and night if needed) should be continued. Water is usually best, since fruit juices, coffee and

tea may have a cathartic effect (producing more loose stools) and alcohol is contraindicated when taking SMZ/TMP. Electrolyte replacement fluids ("Gator-Ade" type liquids) are recommended.

Switching Medication

Although SMZ/TMP and Imodium are a winning combination, there will be times when medication must be changed. You may think you have Mild TD, but have to switch medication because you actually had Severe TD from the start. That is, the bug you caught (or that caught you) causes Severe TD and requires stronger treatment. You will need to find a physician and have your medicine changed.

Another reason to switch, even though you only have Mild TD, is because your present medication is not working. The drugs are not stopping the loose stools. In addition, the abdominal cramps are continuing, the nausea is increasing, you are starting to vomit and run a fever. Any of these problems mean the medicine you are taking isn't working and you need to get a physician to reassess the problem. When medicine doesn't work, we call it a Therapeutic Failure. Here are additional guidelines to help you understand Therapeutic Failure better.

We call it a Therapeutic Failure when,





CAVE DIVER

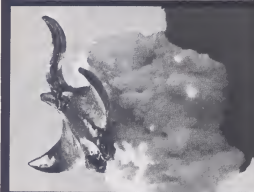
IN AMETHYST
GEODE CAVE

\$29.95



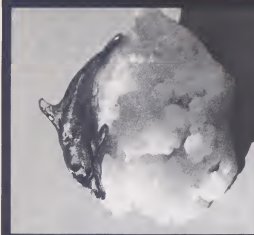
HUMPBACK WHALE & CALF

\$27.95



BAT RAY

\$19.95



BOTTLE NOSE DOLPHIN

\$17.95



DIVER & SHIP'S ANCHOR

\$28.95

**INTRODUCING
THE COLLECTORS
MARINE LIFE SERIES**

THESE BEAUTIFULLY DETAILED SCULPTURES ARE CAST IN SOLID PEWTER FROM THE HAND CARVED ORIGINALS. FINISHED WITH A LIGHT COAT OF CLEAR LACQUER AND MOUNTED ON AN EXOTIC NATURAL BASE OF PURE WHITE ARAGONITE

Forward proof of any contribution to Green Peace and deduct an additional 25% off each sculpture. ★

MAIL YOUR CHECK OR MONEY ORDER TO:

Merchandise Xpress

999 N. Pacific St., Ste. #G-118

Oceanside, CA 92054

Phone: (619) 966-0534

Fax: (619) 966-0203

★ 24 HOURS ★

- FREE SHIPPING AND HANDLING
- LIFETIME GUARANTEE
- FREE CATALOG UPON REQUEST
- 45 DAY MONEY BACK GUARANTEE

DEALER INQUIRIES INVITED

★ **CUSTOM SCULPTURES AVAILABLE** ★

after five days, you are still having:

1. Three or more loose stools per 24 hours;
2. Half the original number of loose stools per day: (e.g., you started with six per day and you are still having three; you started with eight per day and you are still having four; or, cramps, nausea and vomiting.

If any of these occur you should not wait any longer. You should stop diving (which you probably have done anyway) and seek professional advice promptly. The continuance of symptoms could mean something more serious.

Added Relief

TD of any sort can cause local irritation of "sensitive body parts." The use of TUCKS® Medicated Pads (or any similar soft, glycerine-impregnated cloth applicators) will soothe chafed or irritated areas, promote healing and make diving more comfortable.

Prevention with Vibramycin

Some divers have very sensitive GI tracts and have had TD in the past, even though they have avoided potential sources of TD-causing food and water. Others may be returning to dive sites where they have repeatedly contracted Mild TD. In these cases, prevention might be in order. This is most easily accomplished using Vibramycin®, 100 mg, taken by mouth once in the evening. You should start taking it two nights before you arrive at the dive site and keep taking it for two or three days after you leave the area. Vibramycin is available only by prescription. You should talk to the physician who knows you best before planning to use Vibramycin or any other medications mentioned as a general rule.

Let's end this tale of TD with a philosophical quote about how difficult

certain things are to control.

George Will (the conservative author and critic) has said, "Our Passions are like a large dog, straining on the end of a long leash, being held by a very small boy." May whatever TD you get, treat you more kindly than your passions.

Dr. Easton will be happy to answer questions from readers about dive-re-

lated subjects. Please do not request personal medical advice. Letters can be sent c/o Dr. Easton to Aqua-Field Publishing Co., 66 West Gilbert St., Shrewsbury, NJ 07702.

References

- (1) Ericsson, Charles D., et al., "Treatment of Traveler's Diarrhea with Sulfamethoxazole-Trimethoprim and Loperamide," JAMA, January 12, 1990, Vol. 263, No. 2, pp. 257-261. **\$**

DIVE THE FABULOUS FLORIDA KEYS

HALL'S® DIVING CENTER & CAREER INSTITUTE



"A COMPLETE VACATION RESORT"

- Over 40 miles of reef traveled weekly.
- Fantastic corals & tropical marine life.

- WRECKS • CAVES • LEDGES • DROP OFFS •

BEGINNER thru INSTRUCTOR
COURSES START EVERYDAY
SUPER DIVE PACKAGES

1994 OVERSEAS HWY.
MARATHON, FL 33050

In Fla. (305) 743-5929

1-800-331-HALL (4255)

(GROUP RATES ON REQUEST)



CATALINA SCUBA

The one stop Scuba Shop!!!
Instruction!!!
Underwater tours!!!
Introductory dives!!!
Boat dives!!!

RENTALS • SALES • SERVICE

SHARK DIVING

If it has anything to
do with diving
we do it.

Give us a call
(213) 510-2594
1-800 Mr.Scuba or
1-800 Ms.Scuba

Have a great day!!!

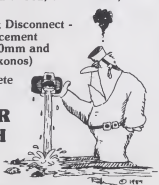
When was the last time you had your camera serviced?

We Specialize In:

- Repairs (Nikonos, Sea & Sea, & Hanimex)
- Accessories:
 - Body Cap — Quick Disconnect —
 - Double Tray — Replacement
 - Screw-In Lens Cap (20mm and
 - "Old Style" 15mm Nikonos)
- We Also Rent Complete Nikonos Packages

UNDERWATER PHOTO-TECH

135 Hampstead Rd.
Derry, NH 03038
(603) 432-1997



Reader Service #353

ST. CROIX

THE ALL NEW

V.I. DIVERS LTD.

THE ALL NEW

HOTEL & DIVING

\$315.00

(Includes all taxes)

4 Nights/6 Dives

From



SINCE 1971

- PADI 5 Star DIVE CENTER
- Superior accommodations
- Professional dive shop
- Excellent waterfront restaurant
- Group rates available

FOR DIVE PACKAGE INFORMATION CALL:

HOTEL CARAVELLE

TOLL FREE 800-524-0410

V.I. DIVERS, LTD., PAN AM PAVILION
CHRISTIANSTED, ST. CROIX, USVI 00820
(809) 773-6045 • 800-544-5911

BY ERIC HANAUER

Focusing on the 15mm Lens

Check out the underwater scenic photos in this or any diving magazine. You know the ones with a diver swimming in crystal water with colorful fishes or invertebrates in the foreground. In all probability, every one was shot with a Nikonos 15mm lens.

This is the tool of choice for professionals and advanced amateurs when shooting underwater wide angle photos. Its price is just enough to keep it out of the gear bags of everyday divers—about \$1,500 with special viewfinder (and it makes no sense to buy one without it). The reasons include its complex optics, the strong Japanese yen, strong consumer yen, and limited supply. That sort of money could instead buy three Nikonos cameras, or a super wide-screen stereo TV, or a pair of season tickets to the Chicago Cubs. So why spend it all on a hunk of glass, plastic, and metal? Because if you really want to shoot stunning wide-angle photographs, that's the price of admission.

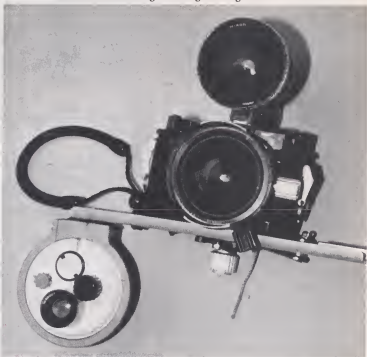
Unfortunately, once you have made

this investment, there are no guarantees of success. Using the Nikonos 15 is easy, but mastering it is difficult. This lens can make turbid water seem clear, but can also make big fishes seem insignificantly small. It can capture the broad scenic pictures you once only visualized, but can also make divers look distorted and ungainly. It can create illusions of depth and space, but exposing correctly for a wide range of lighting conditions is difficult. And despite what advertisers claim, it doesn't work well with automated strobes.

The purpose of this article is to explain the proper uses and limitations of this tool. For those who already own a 15mm lens, there might be a hint or two in here that will help you use it better. For those who are considering making the move up, perhaps this will help make up your mind.

A word about substitutes and imitations is in order. If you are a serious photographer, seeking the highest quality results, forget them. Nothing else approaches the absolute sharpness of the Nikonos 15mm lens. This article is not subsidized in any way by Nikon, nor am I promoting brand-name snobbery. But if you really want to shoot high-quality, wide-angle underwater, photographs, you ought to work with the real thing.

The Nikonos 15 mm lens with its optical finder is shown mounted on a Nikonis III with a Sekonic light meter. In photo, opposite, fill-in flash in lower foreground must be balanced with ambient light reading in background.



The Nikonos 15 is a water-contact lens. This means that the glass-water interface is an integral part of the optical system. Consequently, it is unable to focus in air, but, it focuses superbly underwater. Even at the largest f-stops, there is no softening of focus or chromatic aberration (rainbow effect) at the edges of the frame, as is apparent in photos shot with housed wide-angle lenses that were not primarily designed for underwater use.

Today's 15mm lens is the second generation. The earlier model had a retro-focus design, resulting in a long rear element of similar dimensions to the other Nikonos lenses, but the front protrudes out almost twice as far. Although the value of electronic metering for underwater strobes is questionable, its use for quick-changing light conditions in ambient light shooting is a decided advantage. Therefore, owners of Nikonos Vs will probably prefer the newer model. The old lens will work with the IV and V, but an auxiliary meter will be necessary for exposure, and settings have to be manual, both for the camera and the strobe. That's the way most pros do it anyway. Either version will work with the older Nikonos cameras, although owners of IIIs and IIs generally prefer the sleeker lines of the old lens.

Eric Hanauer is an Associate Professor of Physical Education at California State University, Fullerton. His most recent book, The Egyptian Red Sea: A Diver's Guide, is published by Watersport Publishing Co.

It's an expensive
piece of
photo equipment,
but for taking
underwater scenics,
if you wanna play,
you gotta pay.



ARE YOU TOUGH ENOUGH TO KICK A GORILLA?



GORILLA FINS COMBINE BEASTLY BEAUTY AND AWESOME POWER.

Gorilla Fins combine the legendary hydrodynamic styling of the classic Sea Wing Fin with an entirely new space age material to dramatically increase power for the stronger swimmer.

The new plastic elastomer resin materials act as a built-in spring, allowing the fin blade to quickly return to its original shape. This fin memory quality provides for greater thrust to every kick.

The foot comfort is excellent, secure and the fins resist abrasions, providing a great looking pair of fins for years to come.

See the many other features of the Gorilla Fins at your Scubapro dealer. One dive and the Gorilla will turn you into an animal.

Focusing

Focusing the 15mm is easy if you take advantage of its incredible depth of field. At $f/8$, for example, everything is in focus from 1.5 feet to infinity! Using the bracket marks in the exposure and focus window, just set the infinity mark at the far bracket, and the closest focus will appear at the near bracket. This is called hyperfocal distance, the setting at which depth of field is at its maximum for that particular f-stop. When shooting pictures at this setting, it isn't necessary to estimate the distance to your subject (except for strobe lighting purposes). Fiddling with the camera settings is unnecessary; full attention can be given to the subject and composition. Even at the larger f-stops ($f/4$ and $f/2.8$), hyperfocal settings may be used, but with an additional twist. At $f/4$, with infinity at the hyperfocal mark, the nearest focus is three feet, which will fuzz out fish and invertebrates closer than that distance. The viewer will usually accept distant objects slightly out of focus, but not objects in the foreground. By setting 10 feet (instead of infinity) at the far end, you gain another foot at the near end. A diver or another object farther than 10 feet away will be slightly out of focus, but the viewer will blame that on diffusion and limited water visibility.

Composition

Too many underwater photographers use the 15mm viewfinder merely as an aiming device. This is unfortunate, because that expensive piece of glass is an excellent composition tool. Although unable to focus in air, this viewfinder seems to gather light underwater, actually intensifying the image. This is in direct contrast to SLR viewfinders, which lose light in their mirrors and deliver a dimmer image. Additionally, the 15mm finder seems to flatten out a three-dimensional image and make it appear two-dimensional as it will be in the final photograph. These characteristics make it ideal for composing your shots.

First, take in the entire frame, not just the primary subject. Everything in the frame besides the main subject is called negative space, and proper use of negative space can be the difference between an average photograph and a great one.

Next, make sure you have an interesting foreground. Foregrounds are the key to wide-angle photography, giving the picture a sense of space and depth. At the same time, if the foreground is not the center of attention, it should lead the viewer's eye to the main subject. This can be accomplished through use of leading lines, or natural frames. The eye is usually drawn to the brightest part of a picture, so if the foreground is not the main subject, be careful not to burn it with too much light.



Use the Law of Thirds. Avoid having your primary subject dead center in the frame. Divide your picture into nine parts: three horizontal sections and three vertical ones. The primary subject should be at one of the four intersections of these dividing lines. (Remember, however, that all rules, including this one, may sometimes be broken.)

Finally, and perhaps most important get close to your subject. Fewer particles in the water column between the subject and lens is the secret of the 15's clear water illusion. Getting close will also prevent your subject from getting lost in a sea of insignificance.

Lighting

Although some strobe manufacturers claim that their products will cover the entire 94-degree picture angle of a 15mm lens, in most cases this is no more than promotional hype. There is usually a fall-off of one to two f-stops in light intensity from the center of the beam to the edges. In most good, wide-angle photos this is not a problem, because the strobe is used only as fill, to lend color to the foreground, not necessarily to add light. To accomplish this, the strobe's contribution to the exposure must be balanced with the level of ambient light.

For example, let's say that midwater metering results in a reading of $f/5.6$ (a typical setting for temperate waters). To attain balanced fill, hold the strobe at a position where its correct exposure is $f/5.6$. For most wide-angle, high-output strobes, this will be four feet from the subject at full power, or three feet at half power. Changing the f-stop on the camera will result in darker or lighter water backgrounds, along with affecting the strobe-filled foreground. Bracketing with the strobe will affect *only* the foreground. Remember that in dark waters, at the larger f-stops, you need *less*—not



more—light from the strobe for fill flash. Too much light output will burn out the foreground at $f/4$ and $f/2.8$. Use half or quarter power at these settings.

Bracketing

Lighting conditions in wide-angle photographs can be difficult, especially when shooting upward. There could be a range of five f-stops from the top of the frame to the bottom. If you are using an external meter, point it at midwater, alongside the main subject, or at the area in the frame that you feel is most important. To make sure you have it right, bracket. Take one shot at the metered f-stop, one at a stop above, and another at a stop below. This should take care of the background, but further adjustment may still be necessary for the portion of the picture illuminated by fill-in flash.

This sort of bracketing is done by moving the strobe or adjusting its light output. Essentially, for every foot the strobe is moved farther from the subject, a full f-stop (half the light) is lost. For wide-angle photography, I use a two foot-long strobe arm. When bracketing, I hold the arm at the joint—about halfway up—for one exposure, then at the

end for another. Holding the arm at the end moves it a foot farther away, diminishing the light falling on the subject by a full f-stop, resulting in a two-stop bracket. If your strobe output is adjustable, try one exposure at full power, then one at half power, then a third at half power again, holding the strobe arm at the end. This constitutes a bracket of three f-stops. If your strobe is not adjustable, a quick and dirty way of diminishing output is to hold one or two fingers in front of the flash head as you shoot. Experiment with this under controlled conditions to determine the effect, before trying it in the field.

To bracket available light, change the f-stop or change the shutter speed. The advantage of changing shutter speed instead of using a larger f-stop is that depth of field isn't sacrificed, and this may be critical for a 15mm lens. Many

with developing this form of wide-angle photography. These dramatic images truly lend a sense of dimension, depth and perspective to underwater pictures. Typically, a colorful fish or invertebrate dominates the foreground, then there is a lot of blue water, usually with a diver silhouetted against it. To the uninitiated, the foreground object looks huge, although it may just be an insignificant anemone or soft coral.

To set up this type of shot, first find a picturesque foreground. Get underneath it, so you are shooting almost directly upward toward the surface. Take a meter reading, making sure to avoid pointing directly at the sun. In clear, tropical waters, this reading will most likely be $f/16$ or $f/22$. To make sure the foreground is sharp, set the focus for the closest range. At $f/22$, you will be in focus from about six inches to five feet,

traveling light, and would use this versatile tool for all his underwater photography. Alas, no lens is a panacea in the complex submarine world. There is no way the 15 can do macro or close up, the bread and butter of underwater photography. Small fish, under a foot in length, look positively insignificant, and those about a foot long must be approached within their body length. Big animals, including sharks, groupers, and manta rays must be within five feet or less to look impressive to a 15. This is often impossible, unless they are being fed. For the usual encounter with one of these unusual creatures, a Nikonos 20mm lens, or even a 28, is preferable to the 15. However, if a large animal is being fed or you are able to get close, the 15 can make it seem massive. Just be sure to put a diver in the frame for scale, and maneuver the animal between yourself and the diver. If the diver is closer to the lens, a shark will look like a goby.

Another limitation is distortion, or forced perspective. If you want your model to look graceful and glamorous, here are a few points to remember. Don't place the person at the edge of the frame. Things out there tend to stretch, resulting in ungainly legs. If the model is absolutely vertical (generally an awkward pose), he or she will seem to have gained about 50 pounds. Also be careful of body parts very close to the camera. A hand extended too near the lens will look like the paw of a gorilla.

Finally, the 15mm lens does not lend itself well to automated electronic strobe (TTL). The problem is that there are too many floating things of varying reflectivity that can fool the metering system. TTL might read the brightness of tiny particles in the water column, or that of a nearby fish, and shut down the strobe before proper lighting is attained. Nikonos' TTL system is center-weighted, calculating the light reading primarily from the center of the frame. If you are trying to light only the foreground, as is done in most wide-angle applications, it could be burned out. TTL works best in macro photography, where calculations are based on a central subject that dominates the frame. It also works wonderfully on land. But when shooting wide angle underwater, virtually all pro rely on manual strobe settings.

The Nikonos 15mm lens is one of those unusual tools, without which it is virtually impossible to attain the top echelon of underwater photography. (Chris Newbert, who does all his shooting with a housed camera, is a notable exception.) It represents a major investment, both in cash and in time spent learning how to use it optimally. But the rewards can be exquisite underwater images that once existed only in your imagination. **S**



photographers never take advantage of this option, owing to the mistaken idea that a wide-angle lens cannot be hand held at speeds slower than 1/60 second. The operative rule is: *The slowest hand held shutter speed for sharp pictures is the fraction of a second that corresponds to the focal length of the lens.* The 15mm lens, therefore, could be hand held as slow as a 15th of a second. The slowest shutter speed on a Nikonos is a 30th of a second, which will work for all but fast-moving subjects. In effect, this adjustment doubles your film speed for ambient light while having no effect on strobe exposure. Just be sure to slowly squeeze the shutter; don't snap it.

Extremely reflective subjects, such as silvery fish, might display ghost images when fill flash is used. Sometimes this can be used to advantage, imparting a sense of movement to the photograph.

Close Focus Wide Angle

Veteran pro Jerry Greenberg is credited

at $f/16$ it will be from eight inches to three feet. But that's all right, because distant objects will be only slightly fuzzy, and the viewer will accept that as a function of water visibility. Hold the strobe close enough to the foreground subject for full illumination at a small f-stop (nine inches to a foot at full power). It is usually best to hand hold the strobe directly overhead, simulating the effect of natural sunlight.

Wide-angle photographers shoot upward a majority of the time, consequently, they have to hold their breath before and during exposure to avoid bubbles in the pictures. *Be careful.* This is safe only as long as you are absolutely sure you are not ascending. Be especially cautious in midwater situations, when not in contact with the bottom.

Limitations of the 15mm Lens

After taking his 15mm lens on its first tropical trip, a friend of mine announced that from then on he was

THE REGULATOR EVOLUTION JUST ENDED

The SCUBAPRO D350 Second Stage Regulator is the ultimate perfection of the very successful D300 Regulator. It follows the SCUBAPRO philosophy of over 25 years to continually improve our established products.

The D350 has all of the best features of the D300: the Pneumatically Balanced Demand Valve; the hydrodynamically shaped fiberglass reinforced case (light and strong); the patented V.I.V.A. feature to smooth airflow; the Dive-Pre Dive Control to save air; and the Soft Purge Cover molded into the streamline cover.

In addition, the D350 has even more refinements. The new high cam demand valve lever improves the flow rates at depth. Valve seat wear has been reduced further through the use of new low compression silicone seat materials and a redesigned orifice angle. The cap has been redesigned with a stronger thread configuration.

The new D350 comes in black with a blue accent Dive Control. Accent kits are available for red and teal.

SCUBAPRO®
D350



THE ULTIMATE HIGH PERFORMANCE REGULATOR

SEE THE SPECIAL FEATURES OF THE D350 AT YOUR SCUBAPRO DEALER

SCUBAPRO® 3105 E. Harcourt, Rancho Dominguez, California 90221



Tarheel Lobsters

It's a long boat ride, but North Carolina divers think the chance to catch a five-pound lobster is worth the trip.

BY BILL MANSFIELD

Spiny lobsters are prized by North Carolina's offshore divers.

Wind southwest at eight to 10 knots. It doesn't get any better than that.

The four of us stuffed our gear into the boat as the last of the sausage biscuits were being consumed. Two cameras, two spearguns, four gear bags, and eight tanks. You'd be surprised at how much stuff you can get into a 20-foot boat if you really put your mind to it.

I set the LORAN for the *Lobster Ledge* almost 40 statute miles away. The entire trip takes about ten hours, less than one of which is actually spent underwater. We must love it, 'cause it surely is a lot of work. Standing in that corner I had painted myself into, I was certainly counting on the lobsters being home.

The ride out was all anyone could hope for—a slight swell from the south with no chop. The first hour and a half was spent recounting past dives that seem to get better with age. Everyone had been diving long enough to have at least one story good enough to stretch the imagination, and there wasn't much else to do in a small boat to relieve the pre-dive excitement. What a group—two engineers, a stockbroker, and a biologist. Two of them want to take everything apart, one wants to put it back together, and one wants to sell it. But that day everybody was on the same wavelength—lobsters.

Flying fish and Portuguese-man-of-war usually indicate the Gulf Stream has pushed in pretty close—a good sign. Porpoises flipped in and out of the wake behind the boat, but we never have been able to get a good picture of them.

As we passed the 23-Mile Rock I was reminded that there are very few secrets when it comes to the best fishing (and diving) spots. There were no less than 14 boats from 20 to 40 feet long trolling around the area. That ledge is over 15 miles long, but everybody seems to know that the rock is the hottest spot. It's certainly one of the prettiest spots to dive. The sponge growth is incredible, with reds, oranges, pinks, and some other colors that I can't quite describe. The red sea fans grow up to two feet tall, and the ledge face drops off from about



90 feet down to 110 feet. The fish life on 23-Mile Rock is astounding with grouper, blue angels, Spanish hogfish, butterflies, and several species of damselfish in residence. But we passed it up. We still had 45 minutes to go. The ledge we were going to isn't as pretty as the "23," but we were gonna have spiny lobsters for supper. I hoped.

We didn't see another boat until we neared our target. Two other boats were about a mile away on a wreck, and another was slow trolling on the ledge where we were headed. This rocky ledge is the first small break you cross over as you approach the Gulf Stream and the edge of the continental shelf. The top of the ledge is at about 100 feet, with a small drop-off to 110 feet. The rocks then slope off gradually to sandy bottom at 118 feet, with big rocks and crevices forming superb "hidey holes" for lobsters.

We anchored up and decided to split into teams so the boat wouldn't be left unattended. The two of us with cameras went down first. The sediment here is pretty fine, and it doesn't take much to stir it up. We decided the spearfishermen could wait, since there might not be a grouper in sight for us to take pictures of if they went down first. We planned our dive around photography instead of lobsters, hoping for the best, but planning for the worst.

My partner had a huge catch bag, and I always carry a fish stringer in my b.c.

My neck was way out this time. While munching on fried chicken at the Middle of the Island restaurant, the words had blurted out so easily. "I guarantee we'll get a lobster over five pounds if you'll make the trip to the *Lobster Ledge* with me."

I must have been caught up in the heat of the discussion, because only an idiot would promise to drive a boat 40 miles out into the Atlantic Ocean, then jump overboard expecting to land on top of a five-pound lobster. Oh well, maybe they would forget what I had said.

The fact is, I have never been to my favorite spot on the *Lobster Ledge* without bringing home at least one five-pound spiny lobster. The Gulf Stream usually passes by about 60 miles off the North Carolina coast, but parts of it slip in much closer than that. The depth of water and the closeness of the warm currents create conditions on this ledge that have consistently produced lobsters in the 5- to 10-pound class over the years.

So it didn't seem unreasonable to promise a lobster while we were all swapping sea stories over lunch. It was quite another thing as we loaded our gear into my boat with the weather report blaring out of the VHF.

Bill Mansfield is a former research biologist with the University of North Carolina at Wilmington and a 24-year veteran of diving.

Federal Regulations

For Harvesting Spiny and Slipper (Spanish) Lobsters in North Carolina

1. You may take lobsters from North Carolina offshore waters from August 6 through March 31 ONLY.
2. You may not sell lobsters unless you obtain a seasonal federal permit.
3. You may not take egg-bearing lobsters—you must return them to the water immediately.
4. You may not strip eggs from a female lobster.
5. The possession limit is six per person.
6. It is illegal to possess separated tails.
7. The minimum carapace length is three inches.
8. Spiny lobsters may not be taken with spears, hooks or similar devices, or gear containing such devices. The possession of pierced or punctured lobsters is evidence that prohibited gear was used to take such lobsters, and is therefore illegal.

\$

pocket. I've found that tying up lobsters and dragging them around is easier than trying to get them into a catch bag. If you try this, be sure to tie lots of knots and wrap them up good.

As we neared 100 feet, we could see the visibility was significantly less than the normal 70 to 100 feet usually found here. It was 40 or 50 feet, but with lots

of suspended particles—not good for wide angle photography. The trick now was to put the cameras down and go on a serious lobster hunt.

However, that presented a problem from another standpoint. There is a particular spot near here where I have found large nurse sharks lying under the ledge on two separate occasions and

I didn't want the camera too far away. Remember you can't take that once-in-a-lifetime picture without a camera. So keep it close just in case.

Of course one shouldn't hesitate to put it down when one sees antennae sticking out from under a ledge. These lobsters are too big to take with one hand, and it's going to cost you a lot of money if he accidentally gets hold of your camera.

As expected, the full array of tropical fish was present. The Cuban and Spanish hogfish darted above the reef while the blue angels circled lazily around patches of corals and sponges. The coco damselfish and purple reef fish were busily scurrying in and out of holes in the rocks. I'm certainly glad damselfish don't get any larger, 'cause they really do have an attitude problem.

My partner called me over to look at a spotted snake eel, something I had never expected to see this far north. It's hard to take a good picture of something eight inches long using a wide angle lens, which is why you don't see my snake eel pictures here. But it was fun to see it anyway.

Next came a tough decision. As I pulled my knife out to pop my second spiny oyster off a rock under the ledge, I spotted antennae. I decided that the oyster would still be there after I grabbed my lobster, so I planned my approach. Keep in mind that at 110 feet all decisions have to be made rather quickly. As I slowly approached him, the lobster extended his antennae out to touch me. First touching my hand, he slowly tapped his antennae along my forearm up to my elbow. Believe me, it was an agonizingly slow process. These guys will disappear in a cloud of silt if you hurry. With time running out on my dive, I had no choice but to grab him. I lunged for his head and held on. Unfortunately, all I got was antennae. Hold tight, apply even pressure, and don't jerk. No good. My bottom time was almost up, and he wasn't about to let go of the rock.

I could see light coming from behind the lobster, which told me that he was actually in a crevice with another opening. I decided on another tactic. Releasing my grip, I scrambled around behind him and stuck my hand through the hole to grab him from behind. Again no good. The hole was too small. Then an interesting thing happened. A crustacean's brain isn't advanced enough to think its way through an attack. He last saw me in front of him, and he still perceived the danger as coming from that direction. The more I pulled from behind, the more he tried to back up into my hands. He was trying to escape and was actually coming to me!

Time was up and I had to surface. I

Swim With The Dolphins!

Lucaya, Grand Bahama Island

THE DOLPHIN EXPERIENCE™

Come meet Uno, Cayla, Robala, Birmini, Stripe, and Lucaya—six Atlantic bottlenose dolphins now in residence at the Underwater Explorers Society. Swim with these gentle, loving creatures. It will be an experience you will never forget.

Dive With UNEXSO Unexso has been called the most sophisticated and best equipped diving facility in the Bahamas—and perhaps in the world. And with good reason. Reef, wreck, and cavern diving. Abundant corals and sealife in some of the clearest waters anywhere. Compare facilities and prices. Then you'll know why the famous Underwater Explorers Society is famous.

Free Dive Certificate When you call or write for our Dive Destination Checklist and color brochure. One certificate per customer, please. Allow 3-4 weeks for processing.

Hotel/Dive Packages Start as Low as \$156 per Person Double Occupancy

UNEXSO

UNDERWATER EXPLORERS SOCIETY

1-800-992-DIVE Toll-free in the U.S. (except Florida) [305] 761-7679
Bahamas: (809) 373-1244 • Box F2433, Grand Bahama Island

grabbed my camera and glanced wishfully at the spiny oyster that would have to wait until my next trip.

When I got back to the boat, the two divers waiting to go down broke into hysterics when I yelled, "Somebody please do something with this ★%!! thing!" I had a lobster wrapped around me from my knees to my chin. He had my regulator, mask, b.c., and arms all in a death grip, and I couldn't let go of him if my life depended on it. While they were peeling him off, I noticed for the first time that my partner had an eight-pound spiny. Neither one of us had any pictures worth bragging about, but we were definitely going to have a feast when we got home.

The two other divers added two grouper and another lobster to bring the total for the dive to three spiny lobsters, two grouper, one very nice spiny oyster, and an assortment of deer cowries and helmet shells. The biggest lobster was only about half as large as the 15-pounder taken here two years ago, but we had certainly had a respectable day. My reputation would remain intact.

We decided that the second dive would be right here instead of making the usual trip back to the 23 Mile Rock. This would be a very expensive second dive from a bottom time standpoint, but the chance for another lobster overshadowed the pretty sponges and tropical fish on the "23."

The two and one half hour surface interval was spent lying in the sun, munching fried chicken (there are people who believe that I can't function on the ocean without fried chicken), swimming in the 80-degree Gulf Stream water, and sleeping in the shade of the Bimini top. This is pretty good therapy if you've had a hard week at work.

The second dive produced one more lobster, another grouper, one spiny oyster, and several more cowries. We were already planning the feast—it only depended on whose house we were going to trash.

You can always tell when you've had a good day by listening to conversations during the ride home. The more animated and excited, the better the dives. Nobody minded that the wind had picked up out of the southwest and we were getting soaked from spray. It took a little longer to get back than it did to get out, but these guys were really pumped up and chattered all the way home.

All of the dives off North Carolina aren't this easy. Sometimes we get blown out or wish we had stayed home. Watch the weather carefully, and above all, watch your bottom time. Diving the offshore ledges can be hard work, but the rewards are worth every bit of the effort, when it's time to light the charcoal.

\$

California Channel Islands Live-Aboard Dive Trips With 'TRUTH AQUATICS'



Totally Designed and Custom-Built for Diving
For Complete information, brochures and trip dates
call 805-962-1127 or write Truth Aquatics, Sea Landing,
Breakwater, Santa Barbara, CA 93109.

Quality poster available for sale

*Dive the
Spectacular NORTH
SHORE of St. Croix.
Let BLUE PARADISE
SCUBA pamper you
with accommodations at
CARAMBOLA BEACH
RESORT AND GOLF
CLUB. Wall diving out
your front door, with a
variety of other sights
available.*

**A FULL SERVICE
PADI FACILITY**
P.O. Box 3923, Kingshill
St. Croix, USVI 00851
(809) 778-3598



QUANET™

SKIN CARE LOTION

**THE GREASELESS SOLUTION
TO DRY SKIN !!!**

- Greaseless
- Fragrance Free

QUANET™ is a fantastic new product, developed especially for active, outdoor people, that heals rough, dry, chapped skin caused by exposure and work.

Available in two convenient sizes —
8 OZ and refillable 2 OZ SLIMLINE
Guaranteed to love it or money back!!!

SPECIAL INTRODUCTORY OFFER
Buy two 8 OZ size for \$9.95
Get 2 OZ SLIMLINE FREE
Shipping and Handling \$2.00

CALL TODAY!!

VISA OR MC 1-800-457-6663
OR SEND CHECK OR M.O.
Aquatics Inc.
P.O. Box 624
Powell, OH 43065



Illustrations by Tom A. Russell

SCUBAPRO

Authorized Dealers

Most shops listed offer sales, service, rentals, instruction and tank refills. Please call for specific information.

ALABAMA

Capitol Dive Center

130 Julia Street
Montgomery 34104
(205) 834-3493
Tuesday-Friday: 10 to 8
Monday: 12 to 6
Saturday: 10 to 5

Hydro Space Scuba School

1605 South Cafes
Dothan 36301
(205) 793-3271
Monday-Friday: 10 to 5:30
Saturday: 9 to 3

Key West Diving

Scuba Supply
2307 Pelham Parkway
Pelham 35124
(205) 683-4492
Monday-Friday: 11 to 7
Saturday: 10 to 6
Sunday: 1 to 6

Tropical Outfitters Dive Shop

3673 Debby Drive
Montgomery 36111
(205) 264-9702
Tuesday-Saturday: 10 to 6

ALASKA

Alaska Aquatics

5050 Dunbar Dr.
Wasilla 99587
(907) 376-8077
Tuesday-Friday: 10 to 8
Saturday: 12:30 to 6

Alaska Mining & Diving

Supply Inc.
3222 Commercial Dr.
Anchorage 99501
(907) 277-1741
Monday-Saturday: 9 to 6

Don's Dive Shop

108 Forest Dr.
Kenai 99611
(907) 283-5109
Monday-Friday: 10 to 6

The Scuba Tank

9328 Glacier Highway #47
Juneau 99803
(907) 785-5115
Monday-Friday: 10 to 7
Saturday & Sunday: 10 to 5

Sunshine Sports

1231 W. Northern Lights Blvd.
Anchorage 99503
(907) 272-4444
Monday-Friday: 9:30 to 8
Saturday: 9:30 to 6
Sunday: 12 to 5

ARIZONA

Aqua Sports, Inc.

4230 E. Indian School Rd.
Phoenix 85018
(602) 955-4120
Monday-Friday: 9 to 6
Saturday: 9 to 5

Aqua-Fun Scuba Center

8484 E. Speedway
Tucson 85719
(602) 886-3535
Monday-Friday: 11 to 6
Saturday: 10 to 5

Arizona Divers Supply

2348 N. 7th St.
Phoenix 85006
(602) 253-8622
Monday-Thursday: 10 to 7
Friday & Saturday: 10 to 6
Closed on Sunday

Desert Divers of Tucson

3550 N. 1st Ave. Ste. 140
Tucson 85719
(602) 887-2822
Monday-Friday: 10 to 6
Saturday: 10 to 3

Scuba Sciences, Inc.

8502 N. Black Canyon Hwy.
Phoenix 85051
(602) 995-5928
Monday-Thursday: 10 to 8
Friday & Saturday: 10 to 6

Water Sports Centers Inc.

1000 McCulloch
Lake Havasu City 86403
(602) 855-2141

ARKANSAS

Rick's Pro Dive 'N Skl Shop Inc.

2323 N. Poplar
N. Little Rock 72114
(501) 753-8004
Monday-Friday: 10 to 8
Saturday: 10 to 6

SportsCo-Scuba Hut

2407 W. Sunset
Springdale 72764
(501) 751-0636
Monday-Saturday: 9 to 6

CALIFORNIA

American Diving

1901 Pacific Coast Hwy.
Lomita 90717
(213) 326-6663
Daily: 10 to 7

Aqua Adventures Unlimited

2120 West Magnolia
Burbank 91506
(818) 845-2183
Monday-Friday: 10 to 7:30
Saturday: 10 to 5

Aqua Ventures

2172 Pickwick Dr.
Camarillo 93010
(805) 484-1594
Monday-Friday: 10:30 to 8
Saturday: 9:30 to 7

Aquarius Dive Shop

2240 Del Monte Ave.
Monterey 93940
(408) 375-1933
Monday-Friday: 9 to 6
Sat. & Sun.: 7 to 6
For Guided Tours of Monterey
Call: 1-800-833-8992



Aquarius Dive Shop
#32 Cannery Row, Unit #4
Monterey 93940
(408) 926-6602
Mon., Wed., Fri.: 9 to 8
Sat. & Sun.: 7 to 6
Closed Tuesdays

Aquatic Center
4549 El Camino Coast Highway
Newport Beach 92680
(714) 650-5440
Monday-Thursday: 9 to 6
Friday: 10 to 7
Saturday & Sunday: 8 to 6

Bob's Dive Shop
4374 N. Blackstone Ave.
Fresno 93726
(209) 225-DIVE
Monday-Friday: 11 to 7
Saturday: 10 to 7
Sunday (Summer): 9 to 6

Cal School of Diving
1750 6th St.
Berkeley 94710
(415) 524-3248
Monday-Friday: 10 to 6
Saturday: 9 to 1

Catalina Divers Supply
On The Pier
Avalon 90704
(213) 510-0330

Catalina Scuba, Inc.
P.O. Box 2362/314 Metropole Ave.
Avalon 90704
(805) 677-2822
Daily: 9 to 5

Colo-Riv-Vall Divers & Supply
2001 De Soto
Needles 92383
(714) 326-3232

Corral Reef Dive & Surf Center
14161 Beach Blvd.
Westminster 92683
(714) 894-DIVE
Hours:
Summer:

Monday-Friday: 8 to 9
Saturday: 8 to 7
Sunday: 9 to 5
Winter:

Monday-Friday: 9 to 9
Saturday: 9 to 7
Sunday: 10 to 5
D.O.B. Dive Shop
PO Box 5428
Reno Dominguez 90221
Monday-Friday: 10 to 9

Depth Perceptions
Diving Services
2360 Main Street
Morro Bay 93442
(805) 772-3128
Monday-Friday: 6 to 11 p.m.
Sat. & Sun.: 9 to 6

Dive West
115 W. Main St.
Santa Maria 93454
(805) 925-5878
Monday-Saturday: 10 to 6
Sunday: 12 to 6

Divers Corner
12045 Paramount Blvd.
Downey 90242
(213) 868-7702
Mon., Wed., Fri., Sat.: 9 to 6
Tues., Thurs.: 9 to 9
Sunday: 12 to 5

Divers Supply of
Santa Barbara County
5822 Hollister Ave.
Goleta 93117
(805) 964-0180
Monday-Friday: 10 to 6
Saturday: 10 to 5:30

Divers West
2333 E. Foothill Blvd.
Pasadena 91107
(818) 796-4287
Tuesday-Friday: 10 to 7
Saturday: 9 to 6

The Diving Locker
1020 Grand Ave.
San Diego 92109
(619) 272-1120
Monday-Friday: 9 to 7
Sat. & Sun.: 8 to 5

The Diving Locker
405 N. Hwy. 101
Solana Beach 92075
(619) 755-8822
Monday: 10 to 6
Tuesday-Friday: 9 to 6
Sat. & Sun.: 8 to 5

Far West Marine Center
2841 Willow Lane
Thousand Oaks 91361
(805) 495-3600
Monday-Friday: 9 to 6
Saturday: 9 to 5

Far West Marine Center
1733 Los Angeles Ave.
Simi Valley 93065
(805) 522-3483 (DIVE)
Daily: 10 to 6

Fat Jack's Diving Locker
9500 Micron, Suite 120
Sacramento 95827
(916) 362-2545
Monday-Friday: 10 to 7
Saturday: 10 to 5

Gold Coast Scuba
955 E. Thompson Blvd.
Ventura 93001
(805) 652-0321
Daily: 10 to 6

Howell's Dive Shop
1426 Eureka Way
Reading 96001
(916) 241-1571
Monday-Friday: 8 to 6

Innerspace Divers
1305 N. Chester
Bakersfield 93308
(805) 399-1425
Monday-Friday: 10 to 8
Saturday: 10 to 3

La Jolla Divers Supply
7522 La Jolla Blvd.
La Jolla 92037
(619) 459-2691
Monday-Friday: 9 to 6
Saturday: 8 to 5
Sunday: 8 to 5

Malibu Divers
2123 Pacific Coast Hwy.
Malibu 90265
(213) 456-2396
Monday-Friday: 10 to 6
Sat. & Sun.: 8 to 6

Marina Del Rey Divers
2539 Lincoln Blvd.
Marina Del Rey 90291
(213) 827-1131 CA only
1-800-227-9042 Others
Friday, Saturday: 10 to 7:30
Sunday: 10 to 4:00

NAPA Gun & Dive Exchange
590 Randolph St.
Napa 94558
(707) 255-9900
Monday-Saturday: 9 to 8

Openwater Habitat
411 South Main St.
Orange 92668
(714) 744-6355
Monday-Friday: 11 to 8
Saturday: 10 to 6
Sunday: 12 to 4

Pacific Coast Divers
3809 Plaza Drive, Suite 108
Oceanside 92056
(619) 726-7060
Daily: 10 to 7

Pacific Sporting Goods
11 39th Pl.
Long Beach 90803
(213) 434-1604
Monday-Thursday: 10 to 6:30
Friday: 10 to 7, Sat.: 9 to 6
Sunday: 9 to 5

Pacific Wilderness & Ocean Sports
1719 S. Pacific Ave.
San Pedro 90731
(213) 833-2422
Monday-Thursday: 10 to 8:30
Friday: 10 to 7, Sat.: 10 to 6
Sunday: 9 to 5

The Pinnacles Dive Center
875 Grant Ave.
Novato 94947
(415) 897-9962
Monday-Friday: 10 to 7
Sat. & Sun.: 8 to 4

The Pinnacles Dive Center
2112 Armory Dr.
Santa Rosa 95401
(707) 542-3100
Monday-Friday: 10 to 7
Sat. & Sun.: 8 to 4

Reef Seekers Dive Company
8642 Wilshire Blvd.
Beverly Hills 90021
(213) 852-4990
Monday-Friday: 10 to 7
Saturday: 10 to 8
Sunday: 12 to 5

Rick's Diving Locker
945 W. Valley Parkway, Suite #L
Escondido 92025
(619) 748-6980
Monday-Friday: 10 to 7
Saturday: 10 to 7
Sunday: 8 to 4

San Diego Divers Supply
4004 Sports Arena Blvd.
San Diego 92110
(619) 224-3430
Monday-Thursday: 9 to 7
Friday: 9 to 9
Sat. & Sun.: 8 to 6

Scuba Adventures
1039 Grand Ave.
Arroyo Grande 93420
(805) 773-3483 or (805) 473-1111
Daily: 8 to 6

Scuba Adventures
965 S. Mt. Vernon Ave., #C
Colton 92324-3929
(714) 825-2502
Monday-Saturday: 10 to 6

Scuba Cal USA
15 Tennessee St.
Vallejo 94590
(707) 642-9320
Monday-Friday: 10 to 6
Saturday: 10 to 4

Scuba Daba Dive Shop
7126 Reseda Blvd.
Reseda 91335
(818) 881-4545
Monday-Saturday: 10 to 7

Scuba Haus
2501 Wilshire Blvd.
Santa Monica 90403
(213) 828-2916
Monday-Thursday: 10 to 6
Friday: 10 to 7

Scuba Toys
9547 Valley View Ave.
Cypress 90630
(714) 527-0430
Monday-Thursday: 10 to 7
Friday: 10 to 9
Sat.: 10 to 7, Sun.: 10 to 6

Scubaventures
2222 E. Cliff Dr.
Santa Cruz 95062
(408) 476-5201
Monday-Thursday: 9 to 5
Saturday & Sunday: 8 to 6
Friday: 9 to 6

Ski and Sports
1802 E. Katella Ave.
Orange 92667
(714) 833-1890
Monday-Friday: 10 to 9
Saturday: 10 to 6
Sunday: 10 to 5

Southern Calif. Diving Center
1121 S. Glendora Ave.
West Covina 91790
(818) 338-8853
Monday-Saturday: 9 to 7

Sports Cove
1410 E. Monte Vista
Vacaville 95688
(707) 448-9454
Monday-Friday: 10 to 8
Sat.: 10 to 6, Sun.: 12 to 5

Stan's Skindiving
554 S. Bascom St.
San Jose 95128
(408) 294-7717
Monday-Thursday: 10 to 6:30
Friday: 10 to 9
Saturday: 9 to 5

Tri Valley Scuba School, Inc.
21310 San Ramon Valley Rd.
San Ramon 94583
(415) 828-5040
Monday-Friday: 11 to 6
Saturday: 10 to 4

Ukiah Skin & Scuba
1900 "A" No. Stee St.
Ukiah 95482
(707) 462-5396
Monday-Saturday: 9 to 5:30
Closed Sunday

Valley Aquatics
1209 McHenry Ave. #C
Modesto 95350
(209) 527-2822
Monday-Saturday: 10 to 6
Closed Sunday

COLORADO

Beaver Divers
P.O. Box 3743
Vail 81658
(800) 748-2969
(303) 949-81820
Blue Mesa Scuba & Travel Center
34 South Selig Ave.
Montrose 81401
Dive Shop Phone: (303) 249-8679
Video Shop Phone: (303) 249-8669
Travel Center Phone: (303) 249-3668
Monday-Friday: 11 to 8:30
Saturday: 10 to 8:30
Sunday: 12 to 8:30

Colorado Diver Training Center
2090 East 104th Ave. Suite 101
Denver 80233
(303) 45-SCUBA (303-457-2822)
Hours: 11 to 9

Diver's Reef
3014 N. Nevada
Colorado Springs 80907
(303) 634-3386
Monday-Saturday: 10 to 6

Leisure Diving
60 S. Havane St. #817
Aurora 80012
(303) 344-0414
Monday-Friday: 10 to 7
Saturday: 10 to 5

CONNECTICUT

Niantic Water Sports
283 Main St.
Niantic 06357
(203) 739-6596
Summer: Monday-Saturday: 10 to 7
Sunday: 10 to 3
Fall: Tuesday-Friday: 12 to 8
Saturday: 10 to 6

DISTRICT OF COLUMBIA

National Diving Center
4932 Wisconsin Ave. N.W.
Washington D.C. 20016
(202) 363-6123
Monday-Friday: 9 to 7
Saturday: 9 to 5

FLORIDA

ABC Sports Inc.
9153 Linhart
Ft. Myers 33901
(813) 334-4616
Monday-Friday: 10 to 5:30
Saturday: 10 to 3

Alyssa Pro Dive Center
13175 Overseas Highway
Marathon 33050
(314) 743-2126
Hours: 7:30 to 5:30

Adventure Scuba
150 N. U.S. Hwy. 1
Tequesta 33458
(305) 746-1555
Monday-Friday: 10 to 6
Saturday: 8 to 6
Sunday: 8 to 3

American Scuba and Water Sports
7115 U.S. Hwy. 19
New Port Richey 34652
(813) 848-5095
Daily: 9 to 6

Aquanauts South
903 SW. 87th Ave.
Miami 33174
(305) 252-9295
Monday-Saturday: 9 to 7
Sunday: 10 to 4

Aqua Nuts
10375 Overseas Hwy.
Key Largo 33037
(305) 451-0414
Monday-Saturday: 8 to 8
Sunday: 8 to 5

AquaShop

4020 E. Fowler Ave.
North Palm Beach 33408
(305) 848-9042
Monday-Friday: 9:30 to 6:30
Saturday: 7 to 8
Sunday: 7 to 4

Aquatic Center

3548 S.W. Archer Rd.
Gainesville 32608
(904) 377-0126
Monday-Friday: 10 to 7
Saturday: 10 to 5
Closed Sunday

Captain J's Dive & Charter Service

31 Hwy. 90
Destin 32541
(904) 654-5300
FAX: (904) 654-5375
Daily: 6 to 8
Dive and Tour, Inc.
1403 E. New York Ave.
Deland 32724
(904) 736-0571

Monday-Saturday: 10 to 6

Divers By The Bay

2550 So. Bay Shore Dr.
Coconut Grove 33133
(305) 854-1625
Monday-Saturday: 11 to 10

Diver's Dream

DBA Aquanauts South
903 S. W. 87th Ave.
Miami 33174
(305) 262-9295
Monday-Saturday: 9 to 7

Dive Shop II

Sea Mist Marina
700 Casa Loma Hwy.
Boynton Beach 33435
(305) 734-5568
Monday-Friday: 9 to 7
Saturday & Sunday: 8 to 5

The Diving Locker

223 Sunny Isle Blvd.
North Miami Beach 33160
(305) 947-6025
Monday-Saturday: 9 to 9:30
Sunday: 9 to 6

Goldflippers Dive Shop

775 8th Court Bay #1
Vero Beach 32962
(407) 770-0204
Monday-Thursday: 9 to 5
Friday & Saturday: 10 to 9
Closed Sunday

Good Time Divers and Sports

2701 S.W. College Rd., Suite 107
Ocala 32674
(904) 237-DIVE (3483)
Daily: 9 to 8

Gulf Coast Pro Dive

7203 Highway 90 West
Pensacola 32506
(904) 456-8845
Monday-Thursday: 9 to 7
Friday & Saturday: 9 to 7
Sunday: 7 to 12

Hall's Dive Shop

1994 Overseas Hwy.
Marathon 33050
(905) 743-5929
Daily: 9 to 8

Key West Pro Dive Shop, Inc.

1605 N. Roosevelt Blvd.
Key West 33040
(305) 295-3823
Monday-Saturday: 9 to 7
Sunday: 9 to 5

Ocean Pro Dive Shop Inc.

2259 Bea Ridge Rd.
Sarasota 33579
(813) 924-3483
Monday-Thursday: 10 to 8
Friday: 10 to 9
Saturday: 9 to 6

Panama City Dive Center

4823 Thomas Dr.
Panama City 32408
(904) 235-3390
Daily: 9 to 8

Scuba Haven

1420 E. Fowler Ave.
Tampa 33612
(813) 972-4455
Monday-Friday: 10 to 7
Saturday: 10 to 6
Closed on Sunday
January thru March

Scuba Shop

348 Miracle Strip Parkway #19
Fort Walton Beach 32548
(904) 243-1600 and 243-3373
Sunday-Friday: 9 to 5
Saturday: 8 to 6

Scuba Services, Inc.

5006 34th St. S. (U.S. 19 S.)
St. Petersburg 33715
(813) 822-DIVE or (800) 74-SCUBA
Daily: 9 to 7
Diver Charters 7 Days a Week

Scuba-Ski Inc.

118 9th St., South
Naples 33940
(813) 262-7399
Monday-Thursday: 10 to 6
Friday-Saturday: 10 to 6

Treasure Island Divers

111 108th Ave.
Treasure Island 33076
(813) 360-6669
Monday-Saturday: 10 to 6

Vortex Springs

Route 2, Box 18A
Ponce de Leon 32455
(904) 836-4979
Monday-Thursday: 7:30 to 5
Friday-Sunday: 7 to 7

GEORGIA

Atlanta Scuba Center

1925 Piedmont Circle
Atlanta 30324
(404) 872-6448
Monday-Friday: 10 to 7:30
Saturday: 10 to 6

Charbon's Specialty Sports

505 Hawthorne Ave.
Athens 30606
(404) 548-7225
Saturday & Wednesday: 9:30 to 8
Thursday & Friday: 9:30 to 8

Dive, Dive, Dive

Gwinnett Mall Corners Shopping Ctr.
2131 Pleasant Hill Rd.
Duluth 30138
(404) 476-7833
Monday-Saturday: 10 to 7
Closed Sunday

Diving Locker/Ski Chalet

74 W. Montgomery Cross Rd.
Savannah 31406
(912) 927-6603 or 6604
Monday-Friday: 10 to 6
Saturday: 10 to 5

Garrard Dive Educators, Ltd.

2555 Oak Rd.
Marietta 30067
(404) 984-0382
Monday-Saturday: 10 to 9
Golden Isles Dive and Ski

Golden Isles Dive and Ski

5701 Altama Ave., Suite A
Brunswick 31520
(912) 264-1411
Monday-Friday: 10 to 8
Saturday: 10 to 5

Island Dive Center

206 Marina Dr.
St. Simons Island 31522
(800) 940-DIVE (3483)
Monday-Saturday: 10 to 6

Planet Ocean Scuba Center

Vanderbilt Village Shopping Center
Columbus 31909
(404) 563-8675
Monday-Friday: 10 to 6:30
Saturday: 10 to 5

Seasports, Inc.

11240 Alpharetta Hwy. #200
Roswell 30076
(404) 684-9176
Monday-Wednesday & Friday: 11 to 7
Thursday: 11 to 6
Saturday: 10 to 6

HAWAII

Kohala Divers, Ltd.

P.O. Box 4935
Kawahana 96743
(808) 882-7774
Daily: 8 to 5

Kona Coast Skin Diver Ltd.

75-5614 Palani Rd.
Kailua Kona 96740
(808) 329-8802
Daily including holidays: 7 to 6
Lahaina Divers

Lahaina Divers

162 Lahainaluna Rd.
Lahaina, Maui 96761
(808) 661-4505
Daily: 8 to 9:30

Maul Dive Shop

Azaka Plaza Shopping Center
Kihali 96753
(808) 879-3388
Daily: 8 to 9

Ocean Activities Center

2750 So. Wailea Alani Dr.
Wailea, Maui 96753
(808) 879-4485
Daily: 9 to 6

Ocean Adventures

99-406 Kani Hwy.
Paarl City, Oahu 96782
(808) 487-9060
Monday-Thursday: 8 to 6
Friday: 8 to 7
Saturday & Sunday: 7 to 7
Closed Wednesday

Rainbow Divers

1640 Wilikina Dr.
Wahiawa, Oahu 96788
(808) 622-4532
Monday-Friday: 9 to 6
Sat. & Sun.: 8 to 6

IDAHO

Dive Magic

236 Main Ave. N.
Twin Falls 83301
(208) 733-1979
Monday-Friday: 9 to 5

The Scuba Dive Co.

3707 Overland Road
Boise 83705
(208) 343-4470
Daily: 9:30 to 6:30

ILLINOIS

Adventures in Scuba, Inc.

1730 W. Fullerton
Chicago 60614
(312) 935-DIVE (3483)
Monday-Friday: 11 to 9
Saturday: 9 to 5

Do Dive In

9011 N. University
Peoria 61615
(309) 682-7800
Monday, Wednesday, Friday: 5:30 to 9
Tuesday, Thursday: 7:30 to 1
Saturday: 9 to 5

Forest City Scuba

& Sport Center, Inc.
1894 Delmar Rd.
Rockford 61112
(815) 398-7119
Monday-Thursday: 10 to 8
Friday: 9 to 9
Saturday: 8 to 5

Scuba Diving Schools of

America, Inc.
4 S. 100 Route 59, Unit 19
Naperville 60563
(708) 383-7050
Monday-Friday: 10 to 8
Tuesday & Thursday: 10 to 9
Saturday: 10 to 4

The Scuba Shop Inc.

436 Roosevelt Rd.
Glen Ellyn 60137
(312) 858-4485
Monday-Friday: 10 to 8
Saturday: 10 to 6
Sunday: 10 to 5

Divers World

1271 E. Morgan Ave.
Evansville 47711
(812) 422-2738
Monday-Friday: 10 to 6
Saturday: 8 to 5

DNP Diving, Inc.

604 E. Main
Logansport 46947
(219) 735-3483
Monday-Friday: 8 to 4
Pro Dive Shop

Pro Dive Shop

3203 Covington Rd.
Fl. Wayne 46904
(219) 432-7745
Mon., Tues., Thurs. & Fri.: 12 to 8
Saturday: 9 to 1

Scuba Services/

Divers Supply

1079 Broadridge Ave.
Indianapolis 46220
(317) 253-2000
Monday-Friday: 9 to 7:30
Saturday: 9 to 5

IOWA

Iowa State Skin Diving

Schools, Inc.
West University Plaza
7500 W. University Ave., Suite C
Des Moines 50311
(515) 255-8998
Monday-Friday: 10 to 7
Saturday: 10 to 6

KANSAS

The Dive Shop

7300 W. Frontage Rd.
Marion 66204
(913) 677-3483
Daily: 10 to 7

KENTUCKY

Laurel Diving Headquarters

414 Master St.
Corbin 40701
(502) 523-1380
Hours: 9 to 8
Lexington Dive

Lexington Dive

2680 Wilhite Drive
Lexington 40503
(606) 277-5799
Monday-Friday: 10 to 7
Saturday: 10 to 5

Louisville Dive Shop

2478 Bardston Rd.
Louisville 40205
(502) 458-9427
Monday-Friday: 11 to 7
Saturday: 11 to 5

Undersea Adventures

Hwy. 80
Hurricane 41749
(806) 279-3172
Monday-Saturday: 9 to 8

LOUISIANA

Divers Destination of Louisiana

201 Gilbeau Rd.
Lafayette 70503
(518) 984-4678
Monday-Saturday: 10 to 6

Houma Watersports

3219 W. Main
Houma 70360
(504) 879-2900
Monday-Friday: 10 to 6
Saturday: 10 to 3

Sea Horse Diving Academy

8728 Chaf Manteur Highway
New Orleans 70127
(504) 248-6523
Monday-Friday: 11 to 7
Saturday: 10 to 6

Seven Seas

7865 Jefferson Highway
Baton Rouge 70809
(504) 926-1619
Monday-Saturday: 9:30 to 5:30

The Water Habitat, Inc.

1602 Jackson St.
Alexandria 71301-0442
(318) 443-5075
Mon., Wed., & Fri.: 10 to 6
Saturday: 10 to 5

MAINE

Aqua Diving Academy

1183 Congress St.
Portland 04102
(207) 772-4200
Monday-Friday: 10 to 8
Saturday: 10 to 5

Skin Diver's Paradise

184 Turner Rd.
Auburn 04210
In Maine: (800) 427-DIVE
(207) 782-7739
Monday-Friday: 10 to 8
Saturday: 8 to 8

MARYLAND

Bethany Water Sports

3275 Bethany Ln.
Ellicott City 21043
(301) 461-DIVE
Monday-Friday: 12 to 7
Saturday: 11 to 5

Divers Den Inc.
8105 Harford Rd.
Baltimore 21234-5776
(301) 688-8866
Mon., Tues., Thurs. & Fri.: 9:30 to 9
Wed. & Sat.: 9:30 to 5

The Scuba Hut, Inc.

139 Delaware Ave.
Helen Burnie Olmick
(301) 761-4520
Mon., Wed. & Fri.: 10 to 8
Tuesday & Saturday: 10 to 6

Tidewater Aquatics

227-B E. Main St.
Salisbury
(301) 742-1992 or (800) 837-2102
Summer:

Mon., Tues., Thurs., Fri.: 11 to 6
Saturday: 10 to 5
Winter:

Mon., Tues., Thurs., Fri.: 12 to 5
Saturday: 10 to 1
Closed Wednesday and Sunday

MASSACHUSETTS

Aquarius Diving Center Inc.
3239 Cranbury Hwy.
Buzzards Bay 02532
(508) 759-DIVE

Monday-Friday: 10 to 7
Saturday: 8 to 4

Aquatic Sports

498 Winn St.
Burlington 01803
(617) 272-5164

Summer: Monday-Friday: 10 to 8
Saturday: 9 to 5
Sunday: 8 to 4

Winter: Monday-Friday: 10 to 6
Saturday: 9 to 5
Closed Wednesday & Sunday

Merrimack Aquatic Center

171 Merrimack St. Route 110
Methuen 01844
(603) 688-6566

Monday-Friday: 11 to 7
Saturday: 12 to 4

Pro Divers USA, Inc.

236 Woods Rd.
Bainbridge 02184
(617) 648-4930

Open seven days
Ultramarine Divers
101 Commonwealth Ave.
Concord 01742
(508) 369-1154

Whaling City Diving Center

#48 Popes Island Road, Rt. 6
New Bedford 02740
(508) 992-2682

Monday-Friday: 10 to 8
Saturday: 9 to 6
Summer: Sunday: 9 to 4

MICHIGAN

Divers Incorporated

3300 Westland Ave.
Ann Arbor 48104
(313) 971-7771

Monday-Friday: 10 to 8
Saturday: 10 to 5
Closed Tuesday & Sunday

The Dive Shop

G 4020 Corunna Rd.
Flint 48532
(313) 732-3900

Monday-Saturday: 9 to 6
Lata Appointments Available

The Dive Site

9125 Portage Rd., Suite A
Kalamazoo 49002
(616) 323-3700

Monday-Friday: 10 to 7
Saturday: 1 to 5

Recreational Diving Systems

4424 N. Woodward
Royal Oak 48072
(313) 549-0303

Monday-Friday: 10 to 7
Saturday: 10 to 5

Scuba North, Inc.

33300 W. Bayshore
Traverse City 49684
(616) 947-2520

Monday-Thursday: 9 to 6
Friday-Saturday: 9 to 7
Sunday: 10 to 5
(Winter) Mon.-Sat.: 10 to 6

The Scuba Shack

9982 W. Higgins Lake Dr.
Higgins Lake 48627
(517) 821-6477

(Summer) Monday-Friday: 9 to 5
Saturday & Sunday: 8 to 8

Seaquatics, Inc.

502 Eastman Rd.
Midland 48640
(517) 835-6391

Saturday: 10 to 6
Sunday: 10 to 5

Skamt Shop

5055 Plainfield N.E.
Grand Rapids 49505
(616) 364-8419

Monday, Wednesday, Friday: 10 to 9
Tuesday, Thursday, Saturday: 10 to 6

Tom & Jerry's Skin

& Scuba Shop

20318 Van Born Ave.
Dearborn Heights 49125
(313) 278-1124

Monday-Friday: 11 to 7
Saturday: 11 to 5

ZZ Under Water World, Inc.

1806 E. Michigan Ave.
Lansing 48912
(517) 485-3994

Monday-Friday: 10 to 7
Saturday: 10 to 5

MINNESOTA

Club Scuba East

3035 White Bear Ave.
Maplewood 55109
(612) 770-5555

Monday-Friday: 10 to 8
Saturday: 10 to 5
(Summer) Sunday: 9 to 1

Clay Scuba West

492 Pompton Ave., Route 23
Cedar Grove 07009
(201) 857-1748

Tuesday-Friday: 12 to 9
Saturday: 10 to 5
Closed Sunday & Monday

Chatham Water Sports

9 North Passaic Ave.
Chatham 07928
(201) 635-5313

Monday-Friday: 12 to 9
Saturday: 10 to 5

Elite Divers

Brickchurch Plaza, Route 46
Rockaway 07866
(201) 585-2214

Monday-Friday: 11 to 9
Saturday: 10 to 5

Underwater Sports Inc.

Route 17 South
Rochelle Park 07662
(201) 843-3430

Monday: 10 to 7
Tues.-Fri.: 10 to 9
Sat.: 10 to 6

Whitehouse Aquatic Center

6 Hwy. 22 West
Whitehouse Station 08889
(201) 634-4090

Monday-Saturday: 10 to 8
Sunday: 10 to 2

NEW MEXICO

New Mexico School of Diving

4010 E. Main St.
Farmington 87401
(505) 325-2728

Monday-Saturday: 10 to 6
Sunday: 10 to 5

New Mexico Scuba Center

2529 San Mateo N.E. #9
Albuquerque 87110
(505) 884-5776

Monday-Friday: 10 to 8
Saturday: 9 to 6
Sunday: 12 to 5

The Scuba Company

2715 San Mateo N.E.
Albuquerque 87110
(505) 883-7990

Monday-Friday: 10 to 7
Saturday: 10 to 6
Sunday: 1 to 6

NEBRASKA

Big Mac Scuba & Sail

4711 Huntington St., Suite #1
Lincoln 68503
(402) 468-8404

Wednesday-Saturday: 10 to 5
Sunday: 11 to 5

Divestor

2322 North 72nd St.
Omaha 68134
(402) 391-1155

Monday-Thursday: 12 to 7
Fri., Sat., Sun.: 12 to 5

Mid Coast Divers Supply

8531 Maple Street
Omaha 68134
(402) 391-1559

Monday-Saturday: 10:30 to 6

NEVADA

Blue Seas Scuba Center, Inc.

4681-A Spring Mountain Rd.
Las Vegas 89102
(702) 387-2822

Monday-Friday: 11 to 7
Saturday: 9 to 5
Sunday: 12 to 5

Desert Divers Supply

5720 E. Charleston Blvd.
Las Vegas 89122
(702) 438-1000

Monday-Friday: 9 to 8
Saturday & Sunday: 8 to 6

NEW HAMPSHIRE

Atlantic Aqua Sports

522 Sagamore Rd.
Rye 03870
(603) 436-4443

Daily: 8 to 5, Closed Tues.

NEW JERSEY

Cedar Grove Divers Supply

492 Pompton Ave., Route 23
Cedar Grove 07009
(201) 857-1748

Tuesday-Friday: 12 to 9
Saturday: 10 to 5
Closed Sunday & Monday

Chatham Water Sports

9 North Passaic Ave.
Chatham 07928
(201) 635-5313

Monday-Friday: 12 to 9
Saturday: 10 to 5

Elite Divers

Brickchurch Plaza, Route 46
Rockaway 07866
(201) 585-2214

Monday-Friday: 11 to 9
Saturday: 10 to 5

Underwater Sports Inc.

Route 17 South
Rochelle Park 07662
(201) 843-3430

Monday: 10 to 7
Tues.-Fri.: 10 to 9
Sat.: 10 to 6

Whitehouse Aquatic Center

6 Hwy. 22 West
Whitehouse Station 08889
(201) 634-4090

Monday-Saturday: 10 to 8
Sunday: 10 to 2

NEW MEXICO

New Mexico School of Diving

4010 E. Main St.
Farmington 87401
(505) 325-2728

Monday-Saturday: 10 to 6
Sunday: 10 to 5

New Mexico Scuba Center

2529 San Mateo N.E. #9
Albuquerque 87110
(505) 884-5776

Monday-Friday: 10 to 8
Saturday: 9 to 6
Sunday: 12 to 5

The Scuba Company

2715 San Mateo N.E.
Albuquerque 87110
(505) 883-7990

Monday-Friday: 10 to 7
Saturday: 10 to 6
Sunday: 1 to 6

NEW YORK

Cougar Sports

917 Sawmill River Rd.
Ardley 10502
(914) 693-8877

Monday-Wednesday: 10 to 8
Thursday: 10 to 7, Friday: 10 to 8
Saturday: 10 to 5

Diving Discovery Scuba Center

1529 Central Ave.
Albany 12205
(518) 456-8148

King County Divers Corp.

1417 Avenue U
Brooklyn 11229
(718) 648-4232 & 934-4153

Monday-Friday: 2 to 9
Saturday: 10 to 9

National Aquatic Service, Inc.

732 Erie Blvd. East
Syracuse 13210
(315) 479-5544

Monday-Friday: 9 to 5
Saturday: 9 to 4

Pan Aqua Diving

101 W. 78th St.
New York 10023
(212) 498-2257

Sunday-Friday: 12 to 7
Saturday: 10 to 7

Professional Scuba Center

5777 Camp Rd.
Hamburg (Buffalo) 14075
(716) 648-3463

Mon., Wed., & Sat.: 10 to 5:30
Tues., Thurs., & Fri.: 10 to 8:30

Suffolk Diving Center

58 Lakeside Rd.
E. Northport 11731
(516) 261-4388

Monday-Thursday: 10 to 6
Fri.: 10 to 8, Sat.: 10 to 8
Sunday: 10 to 3

Swim King Dive Shop

572 Rte. 25A
Rocky Point 11778
(516) 744-7707

Monday-Friday: 10 to 7
Saturday: 8 to 6
Sunday: 8 to 12

Underwater World, Inc.

3028 Merrick Road
Westing 11763
(516) 679-6709

Monday-Saturday: 1 to 8
Closed Sunday

NORTH CAROLINA

Blue Dolphin Dive Center, Inc.

3010 S. Stratford Rd.
Winston-Salem 27103
(919) 760-9228

Monday-Thursday: 10 to 7
Friday: 10 to 9
Saturday: 8 to 6

Olympus Dive Charters

713 Shepard St.
Morehead City 28557
(919) 726-9432

Daily: 10 to 6:30
Paradise Island Divers
2500 South Blvd.
Charlotte 28209

(704) 525-9234
Monday-Friday: 9 to 6:30
Saturday: 9 to 6

Reef & Ridge Sports

Two Locations
532 E. Chapman St.
Cary 27511
(919) 457-3831

2257 New Hope Rd.
Raleigh 27604
(919) 878-6131

Monday-Friday: 11 to 8:30
Saturday: 11 to 3

Rum Runner Dive Shop Inc.

2905 East 5th St.
Greenville 27858
(919) 758-1444

Scuba Educators of Asheville

468 Beaverdam Rd.
Asheville, 28806
(704) 252-8707
Hours: 8 to 11 and 4 to 7

Wilmington Scuba, Inc.
50281 Wrightsville Ave.
Wilmington 28403
(919) 799-0668
Monday-Saturday: 9 to 6
Sunday: 1 to 8

OHIO

Buckeye Diving School
46 Warrensville Center Rd.
Bakford 44146
(216) 439-3677
Mon., Wed., & Fri.: 12 to 8
Tues. & Thurs.: 11 to 6
Saturday: 10 to 5:30

C & J Scuba
5825 North Dixie Dr.
Dayton 45414
(513) 890-6900
Monday/Thursday: 10 to 7
Friday: 10 to 9
Saturday: 10 to 5

Dale's Diving Shop Inc.
302 Maigs St.
Sandusky 44870
(419) 625-4134
10:30 to 5:30
Closed Wednesday and Sunday

Dive Inc. Columbus
961 E. Dublin Granville Rd.
Columbus 43229
(614) 785-0950
Tuesday-Saturday: 10 to 7
Sunday: 10 to 5
Closed Monday

Ka-Puka-Wai Dive Shop
1506 Whipple Ave. N.W.
Canton 44708
(216) 478-2511
Monday & Thursday: 11 to 9
Tues., Wed., & Fri.: 11 to 6
Saturday: 10 to 5

Ohio Divers Supply
9612 Wolfram Rd.
Bradner 43406
(419) 457-8765
Monday-Friday: 8 to 6
Saturday & Sunday: 8 to 6

Underwater Enterprises
532 Lake Ave.
Elyria 40335
(216) 323-9542
Monday-Friday: 2 to 9
Saturday: 9 to 6
Sunday: 9 to 11

OKLAHOMA

Chalet Sports
2822 Country Club Dr. West
Oklahoma City 73116
(405) 840-1616
Monday-Saturday: 10 to 8

OREGON

Adventure Diving
2590 Crater Lake Ave.
Medford 97504
(503) 779-1152
Monday-Friday: 1 to 6
Saturday: 9 to 5
Sunday: 9 to 2

Pro. Facility
Aqua Toys
1515 S. 6th Street
Klamath Falls 97601
(503) 883-3483
Monday-Saturday: 8 to 5
Saturday: 9 to 2

Northwest Divers Supply
1611 Virginia St., #59
North Bend 97459
(503) 759-3483
Monday-Saturday: 9 to 6
Sunday: 9 to 1

Steve's Scuba Center
19230 McLoughlin Blvd.
Gladstone 97027
(503) 656-1956
Monday-Friday: 10 to 7
Saturday: 10 to 6

Tri-West Diving Schools
13624 S.E. Powell
Portland 97236
(503) 761-5435
Monday-Saturday: 10 to 8
Sunday: 10 to 5

PENNSYLVANIA

Aquatic Horizons
1501 N. George St.
York 17401
(717) 846-6908
Monday-Friday: 8 to 8
Saturday: 8 to 4

B & B Marine Specialties
Hillville-Bassamer Rd.
Hillville 16132
(412) 667-9448
Daily: 9 to 7

Bainbridge Dive Shop
R.D. #1, Box 23-1
Bainbridge 17502
(717) 426-2114
Daily: 9 to 7

Dudas' Diving Duds
101 Bartram's Lane
West Chester 19382
(215) 436-0176
Monday-Friday: 12 noon to 9
Saturday: 10 to 5

Professional Diving Services
1135 Pittsburg
Springdale 15144
(412) 274-7719
Monday-Saturday: 9 to 9

RHODE ISLAND

Viking Dive Shop
124 E. Main Rd.
Middletown 02840
(401) 847-4179
Sun.-Friday: 10 to 6
Sat.: 10 to 5:30

SOUTH CAROLINA

Exotic Fish & Dive Shop
252 East North St. Extension #12
Greenville 29615
(803) 268-0631
Monday-Thursday: 10 to 8
Friday & Saturday: 10 to 8

Neptune Dive & Ski, Inc.
133 Georgia Ave.
North Augusta 29841
(803) 279-2797
Monday-Saturday: 10:30 to 6
Waterway Dive Center, Inc.
1767 Burning Tree Rd.
Columbia 29210
(803) 731-9344
Monday-Friday: 10:30 to 6:30
Saturday: 10 to 6

TENNESSEE

Adventure Swim & Scuba
7664 Northshore Dr.
Knoxville 37919
(615) 690-3483
Monday-Saturday: 11 to 6
Closed Sunday

Choo Choo Perimeter
Scuba Center
6215 Lake Highway
Chattanooga 37421
(615) 899-1008
Monday-Saturday: 10 to 7

Diving Adventures
3046 Nolansville Rd.
Nashville 37211
(615) 333-DIVE(3483)
Monday-Saturday: 9 to 6

John D. Butler Scuba Schools
73 Whitebridge Rd., Suite G3
Nashville 37205
(615) 356-8340
Monday-Friday: 10 to 6
Saturday: 10 to 4

Rhea's Diving Service, Inc.
313 Whitecrest Dr.
Maryville 37081
(615) 977-0360
Monday-Saturday: 11 to 6

TEXAS

Adventure Quest, Inc.
17611-F Kuykendahl Rd.
Spring 77379
(713) 320-0001
Monday-Friday: 10 to 7
Saturday: 10 to 4

Aquavettes Dive Shop
4099 B Calder Ave.
Beaumont 77706
(409) 832-0254
Monday-Saturday: 9 to 6

Copeland's
404 S. Padra Island Dr.
Corpus Christi 78411
(512) 854-1135
Monday-Friday: 10 to 7
Saturday: 9 to 5

Divers Depot
120 South St.
Nacogdoches 75961
(409) 564-9622
Monday-Saturday: 10 to 6

Lone Star Scuba
2815 Alta Mesa Dr.
Fort Worth 76116
(817) 377-DIVE (3483)
Monday-Saturday: 10 to 6

Pelican's Pier Scuba
210 N. Fl. Hood St.
Killeen 76541
(817) 554-3483
Monday-Friday: 10 to 6
Saturday: 10 to 3

Pro Scuba Supply
341 So. Bonner
Tyler 75702
(214) 593-6254
Monday-Friday: 9 to 6
Saturday: 9 to 4
Closed Sunday

School of Scuba
942 Walnut
Abilene 79601
(915) 673-2949
Monday-Saturday: 10 to 6:30

Scuba Plus
1404 W. Adams
Temple 76701
(817) 773-4220

Scuba West
5500 Greenville, Suite 901
Dallas 75206
(214) 750-6900
Monday-Saturday: 10 to 6

Scuba West
14902 Preston Rd., Suite 412
Dallas 75240
(214) 960-1300
Monday-Saturday: 10 to 8

Scuba West
2552 Joe Field Rd.
Dallas 75229
(214) 241-2900
Monday-Saturday: 10 to 6

Trident Diving Equipment
2110 West Ave.
San Antonio 78201
(512) 734-7442
Monday-Saturday: 10 to 7

UTAH

Dive Utah
4679 South 2225 East
Holiday 84124
(801) 277-DIVE
Monday-Friday: 10 to 6
Saturday: 10 to 4

Scuba Utah
1942 East 7000 South
Salt Lake City 84121
(801) 942-2100
Monday-Friday: 10 to 6
Saturday: 10 to 4

VIRGINIA

Lynnhaven Dive Center
1413 Great Neck Rd.
Virginia Beach 23454
(804) 481-7949
Monday-Friday: 9 to 8
Saturday: 9 to 6
Sunday: 9 to 4

The Ocean Window
6715 "K" Back Lick Rd.
Springfield 22150
(703) 440-8771
Monday-Thursday: 12 to 9
Friday: 12 to 7
Saturday: 10 to 6

WASHINGTON

Bellingham Dive & Travel
210 W. Maplewood
Bellingham 98225
(206) 734-1770
Call for store hours and appts.

Chelan Divers
1210 W. Woodin Ave.
Chelan 98816
(509) 682-4466
Daily: 9 to 5

Gary's Skin & Scuba
Diving Center
1617 Burcham St.
Kelso 98626
(206) 527-1676
Monday-Friday: 10 to 6
Saturday: 9 to 2

Scuba Center of Spokane
N. 3607 Divisin St.
Spokane 99207
(509) 326-4653
Monday-Saturday: 10 to 6

Silent World Divers
13600 N.E. 20th, Bldg. F, Suite A
Bellavue 98005
(206) 747-8842
Monday-Friday: 10 to 7
Saturday: 9 to 6

Sound Dive Center
990 Sylvan Way
Bramerton 98310
(206) 373-3411
Monday-Friday: 10 to 6
Saturday: 9 to 6
Sunday (April to Sept): 11:30 to 3

Whidbey Island Dive Center
8636 80 N.W.
Oak Harbor 98277
(206) 675-1112
Monday-Friday: 10 to 6
Saturday: 9 to 6

WISCONSIN

Aqua Center, Inc.
628 Bellevue St.
Green Bay 54302
(414) 468-8080
Monday: 10 to 7
Tuesday-Thursday: 10 to 5
Friday: 10 to 9
Saturday: 10 to 2
Closed Sunday

Bennett Academy of
Ski & Scuba
6509 W. North Ave.
Wauwatosa 53213
(414) 258-6440
Mon., Tues. & Sat.: 10 to 6
Wed., Thurs. & Fri.: 10 to 9

Dolphin Pools
5255 Verona Rd.
Madison 53711
(608) 271-4622
Monday-Friday: 9 to 6
Saturday: 9 to 4
Sunday: 12 to 3

Reefpoint Diving Center, Ltd.
5900 Spring Street
Racine 53406
(414) 886-8501
Monday-Friday: 11 to 7
Saturday: 9 to 5

CANADA

Aqua Dive Scuba Shop
77 Prince Albert Rd.
Dartmouth, Nova Scotia B2Y 1M1
(902) 469-6948
Monday-Thursday: 10 to 6
Friday: 10 to 9
Saturday: 9 to 5

Bo-Lan
85 Levisgaur St.
Quebec City, Quebec G1R 1A8
(1 418) 525-8893
Monday-Friday: 9 to 5:30

Capitano Divers Supply
1236 Marine Dr.
North Vancouver, B.C.
(604) 986-0302
Monday-Saturday: 9:30 to 8

Deep Tree Enterprises
262 Richmond St.
London, Ontario N6B 2H7
(519) 672-9180
Monday/Thursday & Saturday: 9 to 6
Friday: 9 to 7

Dive Rescue-Sub
Sea Experience
8928 104th St.
Edmonton, Alberta T6H 2L7
(403) 434-1433
Monday-Saturday: 9 to 5:30

G & S Watersports
Box 21
Tobermory, Ontario N0H 2R0
(519) 596-2200
Call for store hours

Pro-Dive Shop

P.O. Box 5053
Portugal Cove Road
St. John's N.F.L.D. A1C 5V3
(709) 578-4587
Monday-Sunday: 9 to 5

Seafun Divers Ltd.

1761 Island Hwy
Campbell River, B.C. V8W 2A8
(604) 287-3822
Monday-Saturday: 9 to 5:30

Seafun Divers Ltd.

300 Terminal Ave.
Nanaimo, B.C.
(604) 754-4813

Monday-Saturday: 9 to 8
Skin & Scuba Schools
#7, 3601-19th St. N.E.
Calgary, Alberta T2E 6S8
(403) 250-7365
Monday-Friday: 10 to 8
Saturday: 10 to 5

The Diving Locker

2745 West 4th Ave.
Vancouver, B.C. V6K 1P9
(604) 738-2681
Fax: (604) 736-2320

The Great Pacific Diving Co. Ltd.

10020 152nd St.
Surrey, B.C. V0R 8X8
(604) 583-1700
Monday-Friday: 9:30 to 8
Saturday: 9:30 to 6

CARIBBEAN

Dutch Antillean Diving

Landhuis Daniel, Weg naar Westpunt
Curacao, Netherlands Antilles
Tel/FAX: 011-5999-6484/00

Tamarine Watersports

P.O. Box 247, The Valley
Anguilla, B.W.I.
(809) 497-2736, 2462
Daily: 9 to 5

UNEXSO-Underwater

Explorers Society
P.O. Box F2433
Freeport, Bahamas
(809) 373-1244
Daily: 8 to 5

Romora Bay Club

U.S. Office:
P.O. Box 7026
Boca Raton, FL 33431
(305) 760-4535
Bahamas:

Harbour Island
Bahamas
(800) 327-8286
Monday-Sunday: 8 to 5

Virgin Islands Diving

Schools, Inc.
P.O. Box 8707, Charlotte Amalie
St. Thomas, V.I. 00801-3400
(809) 774-6687, 7368
Monday-Saturday: 8 to 5

FOREIGN

CENTRAL AMERICA

St. George's Lodge

Box 625
Belize City, Belize C.A.
011-501-44190
Daily: 24 Hours

CYPRUS

Ninos V. Michaelides Ltd.

(Ninos Sports)
P.O. Box 262
Limassol, Cyprus
(051) 72667
Daily (Summer): 8 to 1, 4 to 7
(Winter): 8 to 1, 2 to 6

MEXICO

Rancho Leonero

P.O. Box 2573
Canoga Park, CA 91306
(818) 703-0930

Paraiso Del Buceo

Call 3 Sur #4, Box 222
Cozumel, Q Roo 77600
Tropical Adventures:
(800) 247-3483

MICRONESIA

Palau Dive Center

P.O. Box 5
Koror, Republic of Palau 96940
Cable: Itarukoror
Daily: 9 to 6

Water Sports, Inc.

P.O. Box 31 CHRB
Gerapan, Saipan CNMI 98950
8664
Daily: 7 to 9 p.m.

FAR EAST

Dive Indonesia

3rd Floor, Hotel Borobudur
Inter. Continental
Jl. Lapencan Banteng Seletan 1
Jakarta 10110, Indonesia
370108 Ext. 76024/25
Fax: 3803567
Monday-Friday: 10 to 8
Saturday: 10 to 3
Closed Sundays & Holidays

Double Power Enterprises

FL 7-3 #62, Fu-Hsin North Rd.,
Taipei, Taiwan ROC
886-2-781-0645
FAX 886-2-781-2776
Daily: 9 a.m. to 10 p.m.

Jakarta Dive School & Pro Shop

Jakarta Hilton Hotel
Indonesian Bazaar Shop No. 32
Jakarta Pusat, Indonesia
583051-587981 Ext. 9008-9010
Monday-Friday: 10 to 6
Saturday: 10 to 3

Closed Sunday & Holidays

Odyssea International, Inc
MCB Camp S.D. Butler, Okinawa
FPO Seattle 98773-5000
Monday-Sunday: 8 to 7

PT. Bali Nanas Dive In

Indonesia
Legian Beach Hotel, Jl. Meleati
P.O. Box 308 Kuta, Bali, Indonesia
Phone: 51313
Telex: 35324
Daily: 8 to 4

Phuket International Diving

Center
Coral Beach Hotel
Paton Beach Phuket, Thailand 83121
TLS: TH 68527 CORALS
(078) 321,106-13

SOUTH AMERICA

Aqua Center Limitada

Enrique Meiggs #1960
Quintero, Chile
269
Call for appt.

Box S.A.

Conquistadores 213
Lima 27, Peru
718982
Call for appt.

Burbujas Ltd.

Av. 116 #33-57
Bogota, Columbia
(574) 215-8888
Daily: 9 to 6

Oceopus

(Instruction, Sales/Service, Trips)
Calle 5 No. 66-42
Cali, Colombia
57 (93) 398024
9 to noon, 3 to 7

Pisces Divers

R. Camargo #26
Sao Paulo, Brazil 05510
(011) 212-4473
Daily: 9 to 9

SOUTH PACIFIC

Dive Bougainville Pty., Ltd.

P.O. Box 661, Arawa
NSP Papua New Guinea
(675) 952-595
Daily: 9 to 9

Dive Mate Philippines Inc.

2172-C. Pasong Tamo St.
Makati, Metro Manila, Philippines
Phone: 88-02-22/88-31-94/816-03-66
Monday-Friday: 9 to 7
Saturday: 9 to 3

Niue Adventures

Alofi South, P.O. Box 141
Alofi, Niue Island
Phone: 102
Daily: 6 to 9
Scubahire Ltd.
G.P.O. Box 777
Suva, Fiji
361-085
24-hour Telex: FJ2430
Cables: Divefiji - Suva
Daily: 6 to 5





BY TIM ROCK

Palau

Newly documented wrecks add to the allure of this world-class dive destination.

At Rainbow's End



A giant tridacna clam, at top, was photographed off the Rock Islands. Diver, above, hovers near opening of the blue hole at Turtle Cover. Opposite, diver swims along Ngenelis wall.

Globally, Palau is well known as a world-class diving destination. Located in the Western Pacific about 800 miles southwest of Guam, this archipelago sits on one of the richest zones in the ocean. Not only is its sea life abundant, its islands are home to exotic birds, monkeys and graceful flying foxes.

Near the center of the country are the emerald colored, jungled Rock Islands. These magnificent mushroomlike formations provide a maze of splendid natural beauty and a protected haven for

many rare forms of sea life. It is here the news of an incredible, coral-laden sunken fleet opened another door to underwater discovery in mid 1987.

For years the ships were ignored. Sitting in the tranquil, nutrient-rich waters of the Rock Islands, they collected marine growth and sat in silent testament to a war long finished but not forgotten. Here were dozens of ships, all part of the World War II Japanese fleet. Most were sunk at their anchorages and written off as casualties of war.

Two years ago all of that changed. A Palauan diving business owner and explorer, a renowned shipwreck writer, a crack team of experts from the U.S. National Parks Service and members, both active and reserve, of the United States Navy, all focused their attentions to these little-known hulks. All of a sudden, the ignored ships of the Japanese fleet were alive with divers sketching, measuring, probing holds and bridges and decks and kingposts and just about everything on and around these rusting wrecks, to identify the newest undersea fleet to be rediscovered since Truk Lagoon.

Nestled for the most part in shallow water within the Rock Islands, the ships have become artificial reefs, home to massive schools of fish. On some ships, oysters grow so thickly from their kingposts that shells have fallen from their own weight and lay in piles on the decks below. Forests of wispy black coral trees spring from the bridges or decorate massive guns. Disklike batfish school around the ships and trustingly follow divers like curious puppies. Massive leather corals spread their billowing tentacles to filter the nutrients from the rich waters.

The National Parks Service became in-

A free-lance writer based in Guam, Tim Rock specializes in producing still and video material focusing on marine life of the Western Pacific.





involved when it held a course on Guam on underwater archeology in 1988. The *Aratama Maru* beneath Talafofo Bay was the training site for the course and people from Guam and Micronesia attended. Palau sent two representatives. Following the course, Moses Sam, the Chief of the Bureau of Community Services, told NPS members about the little-known ships beneath Palau's waters and asked them to come down to help inventory and identify the wrecks.

"We both thought it was a good idea," said Dan Lenihan, Chief of the NPS Submerged Cultural Resources Unit. "But neither their government nor our budget had the funding for a trip like that."

So the National Parks Service combined forces with the U.S. Navy to form project Sea Mark. The Navy used Guam and Palau shipwrecks for training exercises for reserve unit divers and the NPS did work that would aid in historic preservation of the ships. Military funding picked up the expenses for the NPS.

The work started in early May and continued through July. It was prefaced by archival work done in Washington, D.C. Records indicated there were 67 ship casualties from U.S. air strikes as well as many other ships sunk before and after the war. One goal was to identify the ships. This had never been ac-

Diver inspects rock formations in Chandeleier Cave. Yellow tunicates photographed at Matremdie Drop-off.



curately done and many ships had been given the wrong name, no name, or a name duplicating another wreck. Before confusion set in and a sunken fishing boat, for instance, was mistakenly called a war wreck, the Navy wanted to set the record straight.

The inclusion of the Navy and its reserves meant a wealth of resources could be drawn from to aid in locating and exploring some of the heavily damaged, lesser-known or deep wrecks. A barge with an air compressor, recompression chamber and generators for surface line diving was rigged. Sidescan sonar and a unique Remote Operated Vehicle (ROV), plus a conventional depth finder were installed on a Palau government fishing boat. Video equipment of the NPS and also some video and still

gear from the National Geographic Society complemented the array.

The unit representing the NPS is known as one of the premier shipwreck research units in the world, having explored everything from the shallow Hawaiian gravesite of the *U.S.S. Arizona* to braving the icy depths of Lake Michigan to explore intact ships. They explore marine resources in and around their target site with professional thoroughness and are fiercely dedicated to conservation. As the weeks went on, dive after dive was made in conditions ranging from tropical downpours to blistering sun.

"It was unexpected how striking the resources would be," said Lenihan.

Toni Carroll, the supervisory archeologist, was equally taken. "It's a

pleasant surprise but an overwhelming surprise at the same time."

"What struck me the most was what a magnificent diving attraction Palau has," says Lenihan. "There is the historic significance (of the wrecks), there is the coral and marine ambience and the incredible accessibility."

These discoveries offer a real bonus to Palau's already world-class diving attractions. Palau has long been known for the fantastic fish life and spectacular drop-offs that are a living artist's palette in the undersea world. These wrecks are also living reefs with some of the most spectacular black coral growth to be seen anywhere. Huge, wispy trees provide homes to crystal flatfish or wary lionfish. The upper sections of the ships are similar to those on Truk, with the kingposts seemingly ready to topple from the rich corals and invertebrates that have attached themselves. Schooling yellowtails are ever-present. The deck areas aren't overgrown and are recognizable for ship buffs looking for identification signs.

The other interested parties—the ex-

plorer and writer—teamed up and took a much more basic approach. Francis Toribiong is the owner of Fish N' Fins dive shop in Koror. An adventurer who brought the sport of sky diving to Palau, he is famous for his discoveries of new reef areas. Francis has been in the business for years, not only finding new reefs and keeping written inventory of shipwrecks, but he has aided writers in the past working on Palau's undersea war history.

About two years ago, Klaus P. Lindemann entered the picture. Lindemann was apparently looking for a new challenge. A German working for a large corporation in Jakarta, Indonesia, Klaus authored the work, *Hailstorm Over Truk Lagoon*. As a hobby, or perhaps an avocation, Lindemann singlehandedly researched and conducted an exploration for the Japanese ship casualties of that devastating air raid in February of 1944. In the process he and Trukese guide Kimio Aisek discovered a number of new wrecks, their whereabouts unknown for 40 years. His book has been recognized as one of the most thorough

and accurately written on the Truk ships. He is now turning his attention to Palau's lost Rock Island fleet.

Toribiong felt confident in teaming up with a man who had a proven track record in this specialized area. As a guide with a local background, Francis has been collecting oral histories from senior Palauans concerning wreck sites for years. He donated a boat and enlisted the help of Tiaki Boisek, a man who at age 13 watched the attacks from a hilltop refuge. Boisek also was there to help the Japanese salvage some of the ships during the Korean War. One of Toribiong's guides, Fermin Gabriel, joined Lindemann as his diving partner. With a core of knowledge and a color screen depthfinder, they embarked.

Like the NFS, Lindemann had also come to Palau with his homework done at the National Archives. With his information, he explored the wrecks like Sherlock Holmes endeavoring to solve a mystery.

"A wreck is like a house left abandoned," he philosophized. "Each has a story to tell. You have to look at it, figure

Travel Tips

GENERAL INFORMATION

Situated about 800 miles southwest of Guam, Palau is roughly seven degrees north of the equator. The temperature is warm year-round, averaging between 80 and 90 degrees. Annual rainfall is 150 inches with the driest months being February through April. Rain showers fall year-round, but are most frequent during the rainy season, from May to September. Water temperature averages 80 degrees.

The 3½-square-mile island of Koror is Palau's capital and center of commerce. Palau is the last Trust Territory of the United States and is currently working toward Free Association status with the U.S.

GETTING THERE

The connecting link to Palau is Guam which is serviced by direct flights from the United States. From Guam, Continental/Air Micronesia has daily flights to Palau. There is a \$10 departure tax.

ACCOMMODATIONS

There are a number of hotels and guest houses on the island including the 100-room Palau Pacific Resort

which is considered deluxe by international standards. The hotel is in a secluded area within a 10-minute drive of Koror and features three restaurants, many sports activities and a swimming pool. Rates start at \$140. Rates at other hotels range from as low as \$25 with the average being from \$40 to \$60. There are many restaurants with Japanese cuisine being very popular.

DIVE OPERATORS

Francis Toribiong owns and manages Fish & Fins Ltd. where NAUI instruction is offered. Single tank dives are \$50 with weights, tanks and BC included. Contact Fish & Fins at: P.O. Box 142, Koror, Palau 96940. Phone: 488-2637.

Palau Diving Center can be contacted at P.O. Box 5, Koror, Palau 96940. Phone: 488-2978. Part of the Carp Corp., the center offers diving and certification on an exclusive island where lodging and meals are available. The island is about a one-hour boat ride from Koror.

NECO Marine is a PADI training facility offering daily boat dives at \$55 for a one-tank dive, including lunch. NECO can be contacted at: P.O. Box 129, Koror, Palau, 96940.

Phone: 488-2206.

Rock Island Tour Company at P.O. Box 1595, Koror, Palau 96940; phone: 488-1573, offers a variety of water activities including diving and snorkeling trips.

TRANSPORTATION

Taxis are plentiful as are tour companies offering both land and sea trips. There is no public bus service. Rental cars are available averaging \$35 to \$50 per day.

TRAVEL DOCUMENTS

U.S. citizens must have proof of citizenship, such as a birth certificate, naturalization papers or a passport. A driver's license is not proof of citizenship.

ELECTRICITY

115 volts, 60 cycle—adapters will be required

CURRENCY

The U.S. dollar is the official currency. Stateside postal stamps and rates also apply.

FURTHER INFORMATION

The Palau Visitors Authority can be contacted at P.O. Box 256, Koror, Republic of Palau 96940. Phone: 488-2793.

\$

it out... find out its past."

Swimming over a ship, Lindemann would look for the telltale signs that would give away its builder and perhaps its identity. He would scan the 500-foot ships from stern to stern, noting twists in the metal and huge holes that may have been caused in any number of ways.

One ship presented a particular mystery to this crew. It was spotted by air by Toribiong as he flew over the Rock Islands one day. Noting the location, he soon made a dive on the ship to find it sitting with an extreme list to port with at least one immense hole blown in its side. It was beautifully adorned with corals and sea anemones with their accompanying clownfish.

Several dives on this wreck turned up clues but no proof of its identity. Lindemann attempted to penetrate the

as they look today. The fruits of their research, as well as the videotapes, will also go to the Palau government.

The shipwrecks, like those in Truk, are the property of the national government and protected from further salvage.



Klaus Lindemann inspects the Channel Wreck near Koror. At left, are Palau's Rock Islands.

engine room to see if any serial numbers would lead to an i.d., but found the place dark, rife with loose wiring, and because of the angle the ship sat, to be vertigo producing—too dangerous.

Finally, Gabriel found a rice bowl. A second dive and a search produced a bowl with an insignia on it. The design will be shown to Japanese shipbuilders to pin down the maker and thus identify the ship.

The research and work continues. New ships are being found. Some beautiful and upright and a wonder to dive, others twisted heaps of metal that explosion after explosion reduced to scattered rubble on the sea floor. The *Sata* was found to be upside-down, all but impossible to penetrate and explore.

Lindemann has already produced a book detailing his insights into the shipwrecks of Palau. The National Park Service has produced sketches of the ships

Thus, they should be around for the enjoyment of sport divers for many years to come. The agencies and individuals involved in this rediscovery project all have plans to further their work. Historically and recreationally, the continuance of this groundbreaking effort should work to the benefit of everyone.

Palau has completed a new airport and is now served by major air carriers. It also has first-class hotels and a number of dependable dive operations that are constantly upgrading their services and equipment. Arrangements can also be made through tour operators to camp in the Rock Islands. The U.S. dollar is the rate of exchange. A valid passport is needed for entry into Palau. Palauan, English and Japanese are spoken here.

Palau's waters support huge sea animals like the whale shark and the salt-water crocodile (an animal of Palauan legend as well). It also hosts a wide

spectrum of fish and coral life. Virtually every dive promises something new and breathtaking. The average water temperature is about 81 degrees and visibility ranges from 50 feet to well over 100 along the drop-offs.

Two of the drop-offs have attracted photographers from around the world. One is at Peliliu, the other in the Ngemelis Islands called Blue Corner.

The southern tip of the island of Peliliu in the Palau archipelago provides a dive that is a true example of sensory overload. It is wild, open ocean that rarely sees divers and the richness of Palau's waters is truly evident from the first plunge in the water.

The terrain around this end of Peliliu plunges very abruptly to at least 900 feet. There is a shallow shelf that extends from the shore covered by 10 to 15 feet of water, but this ends at an abrupt drop in the form of a coral covered wall that is alive with marine life.

Much to our amazement, a group of us once made a dive here and saw no sharks. There was a tuna school nearby, however, and we assume the sharks were off taking care of business. Normally, sharks are a fact of life along this wall.

The first time I made a dive here, six of us fanned out like kids in a candy store. Two divers dipped down below me and swam away from the wall into the "blue void," becoming surrounded by at least a dozen sharks. Above me, a man posed his wife by a large sea fan and was rapidly taking photos. My partner swam ahead of me and became so engulfed by a large school of snapper that all I could see of her were her bubbles rising from the middle of the school. That experience ended abruptly when the fish parted like quicksilver as a whitetip shark slashed its way through, attempting to get a meal. It all but ran into her and the two of them stared at each other in amazement for a few brief seconds before the shark disappeared down the wall.

After we watched the shark swim away, we looked up only to find two large creville jacks staring right at us. They, too, studied us for a second before finning off. The area is dived so infrequently that we were as much of a curiosity to them as they were to us.

The rest of the dive was to produce turtles, a sea snake, large groupers, schools of mastiff bumphead parrot fish, constant shark encounters and more trips through sun-obscuring schools of fish. This is not to mention the coral and sponge life along this wall.

In this area, huge gorgonians of all colors grow in as little as 25 feet of water and extend to the depths, seeming to grow in size as they descend. Feathery black coral trees with thick bases appear



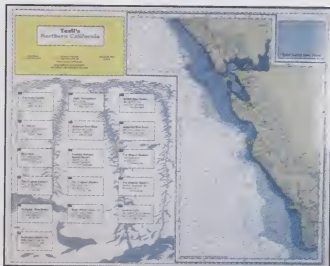
it's complete...

UNDERWATER USA gives you a total package of news, features, entertainment, facts and information you can't get anywhere else... in a colorful 4 part package.



it's regional...

Every issue of UNDERWATER USA features at least one full color, poster-sized, pull-out regional dive map. Laminate it, hang it, frame it.



it's bright...

The newest section of UNDERWATER USA, the Diver's Directory, where nearly 700 dive stores are alphabetized by name and state is a handy and helpful booklet. Your local dive store's probably in here.

it's local...

Selected local and regional dive spots are featured in the Dive America section of UNDERWATER USA. You'll read about dive sites close to home.



It's not the best, **it's the best of the best**, UNDERWATER USA. You deserve it. 717-784-2121 • 800-228-3483 • 800-422-1164/PA

FRAMED PRINTS BY ROYCE B. McCLURE.

Either of these exquisite prints are available unframed or in your choice of a black metal frame as shown on 'Nightdive' or elegantly double matted with a gold wood frame as on 'Rainbow fish'.

PRICES INCLUDE ALL TAXES, SHIPPING AND HANDLING.

Rainbow fish: Unframed \$ 23. Black frame \$ 69. Gold frame \$ 94.

Nightdive: Unframed \$ 28. Black frame \$ 76. Gold frame \$ 128.

Send check to: The Artgame • 11561 Shelly Vista Dr., Dept. 9

Tujunga, CA 91042 • or call (818) 352-9966.

All orders shipped within three days. Safe arrival guaranteed.



R • O • Y • C • E

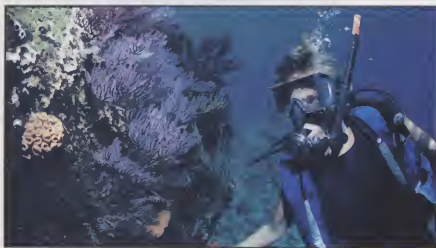
Nightdive 30 x 37 Gold 24 x 33 Black



Dealer inquiries
invited.



Rainbow fish 23 x 30 Gold 20 x 28 Black



"LIKE DIVING IN AN AQUARIUM"

"Divers love Rancho Leonero," says Jim Stewart, Diving Officer for the prestigious Scripps Institution of Oceanography and DEMA's Pioneer Diver of the Year. "It's like diving in an aquarium."

With its own famous "double reef," directly in front of the resort, and the incomparable Pulmo Reef just minutes away, Rancho Leonero's East Cape Divers offers the best, most accessible diving in Baja, with a complete dive shop at your service. Call today for a color brochure.

RANCHO LEONERO FEATURES:

Boat & Beach Dives ☐ **NAUI Instructor/Divemaster** ☐
Rentals ☐ **Full hotel facilities** ☐ **Baja's best fishing**

For additional information write or call:

East Cape Divers at fabulous Rancho Leonero on the magic Sea of Cortez,
223 Via de San Ysidro, San Ysidro, CA 92143 (800) 696-2164 (CA) or (619) 428-2164

occasionally and soft corals, one with the most electric royal purple polyps I have ever seen, adorn the outcrops.

Brown barrel sponges are common to white sea cucumbers that comb the surface of the porifera in thick numbers. There are also cuts and crevices to explore that are painted with encrusting sponges and tunicate colonies.

On my first visit to Palau, this was the first dive I made in the country's bountiful waters. After the dive, I was ready to pack up and head home as I didn't think there could be a better dive. Now, I'm still convinced the Peleliu wall has to rank as one of the world's finest sport dives.

Blue Corner off the Ngemelis Islands is one of those dives that is consistently electric, providing fish action in every imaginable shape and size. Large sharks are common, as are small ones, sea turtles, groupers, schools of eel or sea snake. Big rays have also been seen here.

The amazing thing about Blue Corner is that about 90 percent of the above mentioned animals are spotted on every dive.

The Corner is an area of the reef flat that starts in about 50 feet of water and runs for a great distance, jutting out into the sea before dropping off abruptly to form a wall. Small hills, sand tunnels

and gorges are cut into the upper side. A strong tidal current runs through here, providing food for the bottom of the marine chain, which in turn attracts the middle and upper chain animals.

A typical dive would start by descending along the wall through schooling fish and at least a dozen reef sharks who are curious about the noise of the diver's bubbles. Prior to the tip is a cut in the wall that boasts immense gorgonian fans as well as feathery black coral trees.

Once up on the 50 feet level, the schools of fish that course the corner can be watched for hours. Some schools actually mix together, with as many as four different species swimming in one dense formation. Moving a little farther into an area of heavier coral growth, it is not unusual to see hawksbill sea turtles grazing on hydroids. On one dive, I counted six in a matter of about 10 minutes.

Because it is so consistently active, it has become a mecca for world-class underwater photographers to build their portfolios and should be considered a must for every serious diver. I consider it an advanced dive because the currents here can be powerful and tricky at times.

Heading north from the Ngemelis Wall toward the Rock Islands, divers pass an area of broad sand flats covered in 10 to 40 feet of water. The reflection from the white sand turns the sea to a bright shade of turquoise. This inviting area has been called the German Channel for the cut the Germans blasted through reef to ease boat passage during their occupation of Palau.

We anchored here one evening aboard Palau's luxurious, six-passenger, 60-foot sloop, *Sun Tamarin*. If you like unlimited diving this is the way to go. Not only does it have a compressor aboard that allows for quick fills and dive after dive, it allows the diver to camp over some of the world's finest underwater hot spots. The *Sun Tamarin's* skipper, Michael Stevens, promises diving is limited only by your desires and the wisdom of the dive tables.

Also, there is a powerful attraction that only a well-appointed sailing craft offers for many people. Michael Meares, Palau manager of New World Dive & Sail, the vessel's parent company, described *Sun Tamarin* as "one of the nicest houses on Koror." It is truly gorgeous, and well maintained, with paint fresh and bright, and the wood trim shining from loving care.

Below, the cabins are spacious by boating standards and tastefully decorated. Three heads is plenty for nine people (six passengers and three crew members) who call *Sun Tamarin* home for a few days.

A refrigerator is stocked with plenty of cold beer and sodas and air conditioning keeps things cool and comfortable.

ALL WETSUITS HAVE ONE THING IN COMMON.

THEY WORK BEST WITH AN AEROSKIN LINER.



Polypropylene Skins, Vests and Accessories for superior thermal protection. For more information or location of your nearest dealer, call us at 415-346-4756.

Waking up in this tranquil setting, after sleeping under the galaxy of stars that presents itself on a Rock Island night, we decided to make a morning flight in the German Channel.

This vast expanse had not been dived for sport until a few years ago. I was a member of a group headed by Guam guide Pete Peterson. We asked what the



Tridacna clam clings to the wreck of the *Gosan Maru*. Diver heads down the Ngemelis wall.



Snorkeler swims with harmless jellyfish on Rock Island.

diving was like and were told that no one really ever did much diving here. We said we'd go exploring and the reward was gratifying.

Tide changes in Palau can mean a difference of seven feet at times. The water funneling over these flats reaches a respectable but not treacherous speed and

the diver merely has to drop over the edge of the boat and go with the flow.

The bottom appears to have been landscaped. Gorgonian fans with scarlet skeletons and snowy, white polyps quiver as they extend in the current. Crinoids in many hues abound on top of coral heads. Forests of staghorn coral thickets provide refuge for clouds of damselfish.

An observant diver can usually spot a cuttlefish in these thickets as well. They are curious by nature, resembling large squid, and they will study a diver and react by flashing various hues of color.

Large triggerfish travel these flats, turtles like to sleep under the platter corals and sharks pass by frequently in the

distance. Many spots also have garden eels. Six-foot sand rays have been approached by divers at close distance as they filter-feed in the current.

Big mantas are known to arrive near the mouth of the Channel in fighter-like formation at tide change, to feed on the nutrients in the current.

Ever since the marine lakes of Palau appeared in National Geographic Magazine, the Jellyfish Lake of the Rock Islands has been a popular destination for snorkelers. Located deep in the islands, guides motor around nearly exposed coral patches to a shaded jungle cove. The water here holds giant tridacna clams that can be seen easily by snorkeling. I believe a razor coral named after photographer Douglas Faulkner is also abundant here.

The excursion through the sharp, rock limestone forest begins at the end of the cove. The hike to the lake is up a steep hill to the top of a rock island, then a snake down the ridges to the edge of a briny swamp. There are rocks out of sight here, so a slow, cautious snorkel out will prevent any scrapes or head bumping. The rocks don't give much, trust me.

The water will clear up and drop to about ten feet. Below, decaying vegetation mixes with a maze of roots. Small fish dart in and out. A closer look will also reveal some small, white anemones with flowing tentacles lining the roots.

To find the jellyfish, head for the sun. The animals have developed a symbiotic relationship with a plant. Basically, the plant gets its energy from the sun and the jellyfish from the plant. Thus, the jellyfish seeks the sunlight to keep the plant fed. The animals have no need to sting as they have no enemies in this environment and they feed themselves. Thus, they are safe to touch.

Depending upon the time of day, the jelly fish will be found in direct sunlight. As the sun narrows across the lake in the afternoon, the jellyfish move closer together and the snorkeler can expect to be surrounded by hundreds of thousands of the animals at all depths. Diving down into this sea of pulsing, gelatinous umbrellas and looking back at the sun is a surreal experience.

A word of caution. There are voracious saltwater crocodiles in the Rock Islands. Ask your guide if any have been recently spotted in Jellyfish Lake before hopping in.

This just skims the surface of the fantastic underwater wilderness of the Palau islands. In addition to the Palau reefs and shipwrecks, there are beautiful jungle tours and land-based war relics to be seen.

Tasting fine seafood cuisine in many of the local restaurants is also a must. Remember to call ahead for that Palau delicacy—mangrove crab.

\$

AUTHENTIC SHARK JAWS

Awesome Novelty for \$10.00
Free Novelty List

Richard Bondire
715 No. Erie
Rockville, IN 47872

DIVER DOWN JEWELRY

HANDCRAFTED • STERLING SILVER

• MOTHER OF PEARL •

• MEDITERRANEAN RED CORAL •

—30 Day Money Back Guarantee—

SEND CHECK OR MONEY ORDER TO:

SOUTHWEST TRADERS
P.O. Box 593
Santa Clara, UT 84765

Name _____
Address _____
City/State _____ Zip _____

View or M/C Acct. # _____
For Fast Delivery Call 1-801-673-1038
Dealer Inquiries Welcome Allow 2-4 Weeks Delivery

	Was	Now
Ring	54.95	39.95
Pendant	44.95	29.95
Tie Tac	29.95	19.95
Earrings	59.95	39.95

Quantity	Size/Length	AMOUNT
<input type="checkbox"/> Ring	_____	_____
<input type="checkbox"/> Pendant	_____	_____
<input type="checkbox"/> Tie Tac	_____	_____
<input type="checkbox"/> Earrings	_____	_____
Shipping & Handling		4.00
Total Amount Enclosed		_____

BY LAND OR BY SEA...TAG IT!

Standard size (2 1/2 x 4 1/4) \$5.50 each
Label size (1 3/8 x 4 1/4) 3 for \$6.00

Texas residents add 8.25% tax
Postage and handling \$1.50

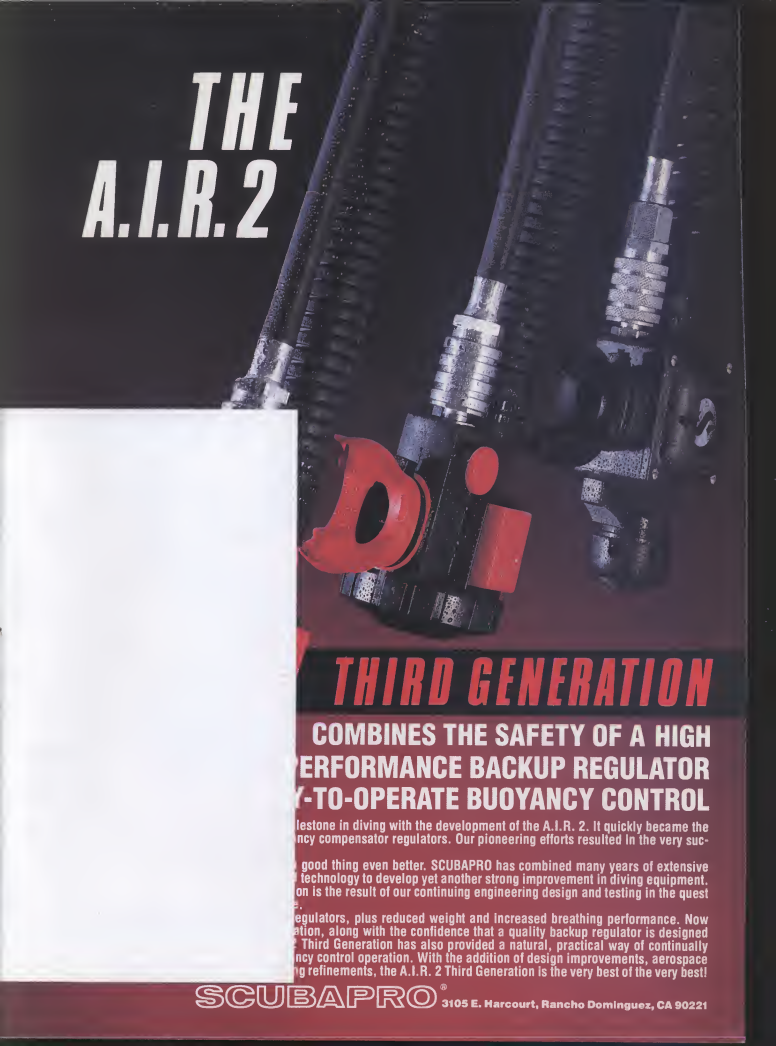
Your name and address printed on back



Mail to: The Tag Factory
P.O. Box 440192
Houston, TX 77244
713-493-6464

Waterproof Gear Tags

THE A.I.R. 2



THIRD GENERATION

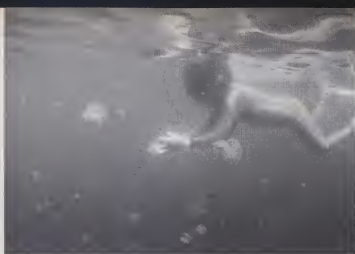
COMBINES THE SAFETY OF A HIGH
PERFORMANCE BACKUP REGULATOR
Y-TO-OPERATE BUOYANCY CONTROL

...ilestone in diving with the development of the A.I.R. 2. It quickly became the
...nity compensator regulators. Our pioneering efforts resulted in the very suc-

...a good thing even better. SCUBAPRO has combined many years of extensive
...technology to develop yet another strong improvement in diving equipment.
...on is the result of our continuing engineering design and testing in the quest

...regulators, plus reduced weight and increased breathing performance. Now
...ation, along with the confidence that a quality backup regulator is designed
...Third Generation has also provided a natural, practical way of continually
...ncy control operation. With the addition of design improvements, aerospace
...ng refinements, the A.I.R. 2 Third Generation is the very best of the very best!

SCUBAPRO® 3105 E. Marcourt, Rancho Dominguez, CA 90221



Snorkeler swims with harmless jellyfish on Rock Island.

diving was like and were told that no one really ever did much diving here. We said we'd go exploring and the reward was gratifying.

Tide changes in Palau can mean a difference of seven feet at times. The water funneling over these flats reaches a respectable but not treacherous speed and

the diver merely has to drop over the edge of the boat and go with the flow.

The bottom appears to have been landscaped. Gorgonian fans with scarlet skeletons and snowy, white polyps quiver as they extend in the current. Crinoids in many hues abound on top of coral heads. Forests of staghorn coral thickets provide refuge for clouds of damselfish.

An observant diver can usually spot a cuttlefish in these thickets as we

are curious by nature, resembling squid, and they will study a diver react by flashing various hues.

Large triggerfish travel the turtles like to sleep under the plaals and sharks pass by frequent

distance. Many spots also have garden eels. Six-foot sand rays have been approached by divers at close distance as they filter-feed in the current.

Big mantas are known to arrive near the mouth of the Channel in fighter-like formation at tide change, to feed on the nutrients in the current.

Ever since the marine lakes of Palau appeared in National Geographic Magazine, the Jellyfish Lake of the Rock Islands has been a popular destination for snorkelers. Located deep in the islands, guides motor around nearly exposed coral patches to a shaded jungle cove. The water here holds giant tridacna clams that can be seen easily by snorkeling. I believe a razor coral named after photographer Douglas Faulkner is also abundant here.

The excursion through the sharp, rock limestone forest begins at the end of the cove. The hike to the lake is up a steep hill to the top of a rock island, then a snake down the ridges to the edge of a briny swamp. There are rocks out of sight here, so a slow, cautious snorkel out will pre-

AUTHENTIC SHARK JAWS

Awesome Novelty for \$10.00
Free Novelty List

Richard Bondire
715 No. Erie
Rockville, IN 47872

DIVER DOWN JEWELRY

HANDCRAFTED • STERLING SILVER

• MOTHER OF PEARL •

• MEDITERRANEAN RED CORAL •

—30 Day Money Back Guarantee—

SEND CHECK OR MONEY ORDER TO:

SOUTHWEST TRADERS

P.O. Box 593

Santa Clara, UT 84765

Name _____

Address _____

City/State _____ Zip _____

Visa or M/C Acct. # _____

For Fast Delivery Call 1-801-873-1038

Dealer Inquiries Welcome Allow 2-4 Weeks Delivery

	Was	
Ring	57.95	3!
Pendant	44.95	2!
Tie Tac	29.95	1!
Earrings	59.95	3!

Quantity _____ Size/Length _____ AMOUNT _____

☐ Ring _____

☐ Pendant _____

☐ Tie Tac _____

☐ Earrings _____

Shipping & Handling 4.0

Total Amount Enclosed _____



PR 065105

EXP. DATE _____

SIGNATURE _____

VISA ACCT # _____

☐ PAYMENT ENCLOSED

☐ CHARGE MY MASTERCARD ACCT # _____

CITY _____

STATE _____

ZIP _____

NAME _____

ADDRESS _____

☐ NEW SUBSCRIBER ☐ RENEWAL

RATE GOOD IN U.S. ONLY FOREIGN RATE ADD \$.50 PER ISSUE

12 ISSUES FOR \$25.00 (SAVE \$14.00)

8 ISSUES FOR \$16.50 (SAVE \$8.10)

4 ISSUES FOR \$10.00 (SAVE \$1.00)

PLEASE CHECK YOUR CHOICE

THE MAGAZINE FOR ACTIVE DIVERS

Attach and complete this form, then mail in postpaid envelope.

BY LAND OR BY SEA...TAG IT!

Standard size (2 1/2 x 4 1/4) \$5.50 each
Label size (1 3/8 x 4 1/4) 3 for \$6.00

Texas residents add 8.25% tax
Postage and handling \$1.50

Your name and address printed on back

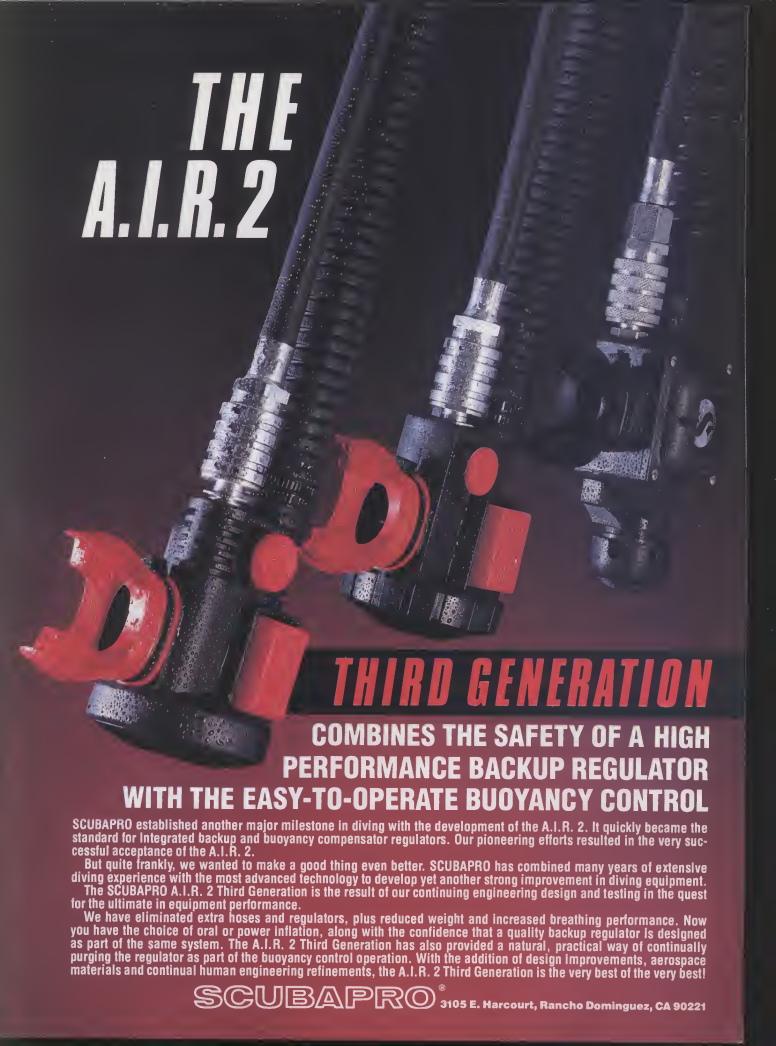


Mail to: The Tag Co.
P.O. Box 4
Houston, TX
713-493-6

Waterproof Gear Tags

SCUBAPRO®
Diving & Snorkeling

THE A.I.R. 2

A detailed close-up photograph of SCUBAPRO A.I.R. 2 regulators and their associated hoses. The regulators are black with prominent red accents, including the inflation valves and adjustment knobs. They are connected to thick, black, braided hoses. The equipment is shown from a low angle, creating a sense of depth and focus on the mechanical details.

THIRD GENERATION

**COMBINES THE SAFETY OF A HIGH
PERFORMANCE BACKUP REGULATOR
WITH THE EASY-TO-OPERATE BUOYANCY CONTROL**

SCUBAPRO established another major milestone in diving with the development of the A.I.R. 2. It quickly became the standard for Integrated backup and buoyancy compensator regulators. Our pioneering efforts resulted in the very successful acceptance of the A.I.R. 2.

But quite frankly, we wanted to make a good thing even better. SCUBAPRO has combined many years of extensive diving experience with the most advanced technology to develop yet another strong improvement in diving equipment.

The SCUBAPRO A.I.R. 2 Third Generation is the result of our continuing engineering design and testing in the quest for the ultimate in equipment performance.

We have eliminated extra hoses and regulators, plus reduced weight and increased breathing performance. Now you have the choice of oral or power inflation, along with the confidence that a quality backup regulator is designed as part of the same system. The A.I.R. 2 Third Generation has also provided a natural, practical way of continually purging the regulator as part of the buoyancy control operation. With the addition of design improvements, aerospace materials and continual human engineering refinements, the A.I.R. 2 Third Generation is the very best of the very best!

SCUBAPRO® 3105 E. Harcourt, Rancho Dominguez, CA 90221



MASK WITH OPTICS

\$75.00

Optically ground prescriptions in your mask corrects for astigmatism, near & far sightedness, bifocals, & more. Send distance between eyes & prescription to:

Aquatic Sports & Scuba Center
N 3607 Division Spokane, WA 99207
Phone: (509) 326-4653
(Dealer inquiries welcome)
SCUBAPRO Dealer #24925

WANT MORE?



MCD 2000 STROBE SYSTEM

Are your TTL shots lacking something special? Do your images need a creative jolt? Then it's time to use the MCD 2000 Strobe System and discover what MCD users already know. It's creative, expandable and reliable.

The MCD 2000 Strobe System's many unique features include:

- Adjustable beam control. from 58-90 degrees.
- Color control underwater.
- Full 360 strobe and arm placement.
- Compact and powerful.
- 2 "C" cells for power.
- Total field serviceability.
- Lots of accessories.
- Adaptable to any camera.

If you really want award winning photographs call today and discover for yourself the advantages of a professional lighting system. The **MCD 2000**, a professional lighting system for the artist in you!

MARINE CAMERA DISTRIBUTORS

11717 Sorrento Valley Rd.
San Diego, CA 92121
(619) 481-0604

JoJo

(Continued from page 11)

ferently to Spuds' presence. Whereas with JoJo the feeling is one of delight, with Spuds, it's a sense of wonder and just a little apprehension.

Spuds has a look of superiority that makes you feel as if he's done you a favor by showing up. He also emits a slightly psychopathic aura, that he just might do something maniacal at any time. I thought about that a lot when I climbed up the boat ladder or stood on the rungs taking my fins off.

I tried swimming with Spuds a couple of times for photos but he was not very cooperative. He liked the shadows and I wanted him in the sunlight, so I kept chasing him from beneath the boat.

There seemed to come a point when he'd had enough and he let me know it by slowing down and giving me a huge cuda yawn. Just as with JoJo, no attempt is made to domesticate Spuds by feeding him, so he's likely to retain his aloof posture.

If the days are given to diving, the nights belong to the GO shows, which change nightly based on a one-week rotation, the longest most Americans stay. Europeans who crowd Turkoise each August may stay as long as two

weeks. After the evening GO show the disco opens, though that's not something many divers see unless they do most of their diving in the afternoons.

The dive staff, which works harder than anyone else at Turkoise, is also required to participate in the nightly song/dance/comedy routines which often last until 11. The dive shop opens at eight, seven days a week and the boats depart shortly thereafter. Consequently, the GOs who dive for a six-month period with no time off, follow a tough schedule. At the end of their duty tour they do have a brief vacation before their next assignment. What keeps them at it is the chance to see the world as part of the Club Med team, though exposure outside the Club is extremely limited.

That doesn't make much difference on Provo, since the only thing worth seeing is the conch farm which is commercially raising the mollusks. Club Med has Provo's best beach, best food, best sports facilities and usually the most attractive men and women.

Club Med likes to advertise that its facilities are so complete there is never any reason to step off the property. That's not true at all locations, but on Provo there really is no need ever to go outside the village. **S**



Come-on You Deserve It.

For Warmth, Comfort & Convenience There's Nothing Like A Drysuit...

30 YEARS OF QUALITY

THE DRYSUIT ELIMINATES

The cold wet uncomfortable feeling of a wet suit. The neoprene neck and wrist seals combine with the soft fabric of the underwear to offer dry warmth.

ELIMINATES

The awkward and often difficult entry and exit of a wet suit. Easy access zipper and flexible polyurethane coated nylon make getting out of the drysuit a snap.

ELIMINATES

The restrictions of movement when wearing a wet suit. Allows you the flexibility you need for a variety of diving conditions.

EXCLUSIVE GATOR LEG

(PATENT PENDING)
Restricts airflow into the lower extremities in the event of a head first descent. Offers super insulation of the neoprene sleeve. The heavy duty knee and shin pad absorbs shock and abrasions.



WHITES SCUBAPRO WOOLIES, WARM AND WONDERFUL

Polypropylene material provides wicking action (pulling moisture away from body through the fibre of the fabric).

The attractive Hi-Tech blue and black SCUBA PROLITE™ Drysuit offers maximum protection from the elements and unrestricted movement. Designed to make every dive a pleasant experience.

WHITES SCUBAPRO EXCLUSIVE WARRANTY

(ORIGINAL OWNER)

- Lifetime on all seams
- Lifetime on all valves
- 5 years on workmanship
- 1 year on materials
- 1 year on zipper

**"TRY THE DRYSUIT
EXPERIENCE. YOU WON'T
BELIEVE THE COMFORT"**

**WRITE OR
CALL FOR
THE MANY OTHER
FEATURES
OF THE
DRYSUIT**

Whites SCUBAPRO LTD.

A Division of JWA.

AVAILABLE AT AUTHORIZED
SCUBAPRO DEALERS

6820 Kirkpatrick, RR#3
Victoria, B.C. Canada V8X3X1
(604) 652-5510 • FAX (604) 652-5543



It takes decades to grow a tree.

Shouldn't wood last as long as it takes to replace it?

Wolmanized® Pressure Treated Wood, the wood that lasts a lifetime helps more trees last a lifetime and,

- Conserves valuable forests. Wolmanized Wood lasts decades, that's as long as it takes to grow a replacement tree.
- Protects wood for a lifetime against the worst enemies of wood used outdoors — rot, decay and termites.
- Reduces the number of trees that must be cut every year, allowing our limited resources to be considered for alternate uses, such as recreation.
- Energy consumption is reduced. It takes

much less energy to produce lumber than it takes to produce concrete for a patio or metal and vinyl for siding.

- Saves money over the life of the project. By using Wolmanized pressure treated wood you won't have to replace material as it fails.
- Increases the value of your home by enlarging the available living space.
- Gives peace of mind that with your decision to buy Wolmanized pressure treated wood you are doing your part to help the environment.



1991 HICKSON BUILDING PRODUCTS LIMITED
1234 ARGENTIA ROAD, MISSISSAUGA, ONTARIO L5N 1X7